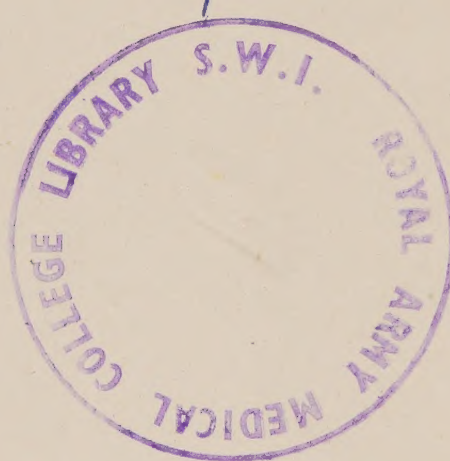
GEOGRAPHICAL HANDBOOK SERIES FOR OFFICIAL USE ONLY

SYRIA

NAVAL INTELLIGENCE DIVISION


4
LIBRARY S.W.1.
ROYAL ARMY MEDICAL COLLEGE


22101956861



Temple of Bacchus at Baalbek

B.R. 513 (Restricted)

GEOGRAPHICAL HANDBOOK SERIES

FOR OFFICIAL USE ONLY

SYRIA

APRIL 1943

NAVAL INTELLIGENCE DIVISION

Reprinted 1944 with minor corrections

PREFACE

IN 1915 a Geographical Section was formed in the Naval Intelligence Division of the Admiralty to write Geographical Handbooks on various parts of the world. The purpose of these handbooks was to supply, by scientific research and skilled arrangement, material for the discussion of naval, military, and political problems, as distinct from the examination of the problems themselves. Many distinguished collaborators assisted in their production, and by the end of 1918 upwards of fifty volumes had been produced in Handbook and Manual form, as well as numerous short-term geographical reports. The demand for these books increased rapidly with each new issue, and they acquired a high reputation for accuracy and impartiality. They are now to be found in Service Establishments and Embassies throughout the world, and in the early years after the last war were much used by the League of Nations.

The old Handbooks have been extensively used in the present war, and experience has disclosed both their value and their limitations. On the one hand they have proved, beyond all question, how greatly the work of the fighting services and of Government Departments is facilitated if countries of strategic or political importance are covered by handbooks which deal, in a convenient and easily digested form, with their geography, ethnology, administration, and resources. On the other hand it has become apparent that something more is required to meet present-day requirements. The old series does not cover many of the countries closely affected by the present war (e.g. Germany, France, Poland, Spain, Portugal, to name only a few); its books are somewhat uneven in quality, and they are inadequately equipped with maps, diagrams, and photographic illustrations.

The present series of Handbooks, while owing its inspiration largely to the former series, is in no sense an attempt to revise or re-edit that series. It is an entirely new set of books, produced in the Naval Intelligence Division by trained geographers drawn largely from the Universities, and working at sub-centres established at Oxford and Cambridge, and is printed by the Oxford and Cambridge University Presses. The books follow, in general, a uniform scheme, though minor modifications will be found in particular cases; and they are illustrated by numerous maps and photographs.

The purpose of the books is primarily naval. They are designed first to provide, for the use of Commanding Officers, information in a comprehensive and convenient form about countries which they may be called upon to visit, not only in war but in peace-time; secondly, to maintain the high standard of education in the Navy and, by supplying officers with material for lectures to naval personnel ashore and afloat, to ensure for all ranks that visits to a new country shall be both interesting and profitable.

Their contents are, however, by no means confined to matters of purely naval interest. For many purposes (e.g. history, administration, resources, communications, &c.) countries must necessarily be treated as a whole, and no attempt is made to limit their treatment exclusively to coastal zones. It is hoped therefore that the Army, the Royal Air Force, and other Government Departments (many of whom have given great assistance in the production of the series) will find these handbooks even more valuable than their predecessors proved to be both during and after the last war.

J. H. GODFREY
Director of Naval Intelligence
1942

The foregoing preface has appeared from the beginning of this series of Geographical Handbooks. It describes so effectively their origin and purpose that I have decided to retain it in its original form.

This volume has been prepared by the Oxford sub-centre of the Naval Intelligence Division under the direction of Lieut.-Colonel K. Mason, M.C., M.A., R.E., Professor of Geography in the University of Oxford, and is the work of a number of contributors, whose names are given in Appendix K.

E. G. N. RUSHBROOKE
Director of Naval Intelligence
APRIL 1943.

CONTENTS

PLATES

TEXT-FIGURES AND MAPS

(*Figures are marked with an asterisk*)

CHAPTER I

INTRODUCTION

SYRIA is a term which has been used loosely. It is of uncertain derivation; some regard it as a corruption of Assyria, others as coming from the Babylonian name of a district north of the Euphrates. The name was applied by ancient writers and geographers to a wide area stretching between the Taurus mountains and the Sinaitic peninsula. It has also been used more definitely at various times to denote particular administrative units in this area. It occurs in the titles of three Roman provinces of the second century A.D.; Syria, Syria Phoenicê, and Syria Palaestina. At the beginning of this century Suriya was the name of the Turkish province of Damascus which stretched down to the gulf of Akaba, but did not include the Mediterranean coastlands. More recently the term has been confined by the French to one of the two States which were mandated to France in 1920. This volume deals with both these States, Syria and the Lebanon.

These two States are a creation of the years which followed the conclusion of the first world war of 1914–18. For just four centuries they had formed a fragment of the Arabic-speaking peoples of the old Turkish Empire. Part of the Lebanese area had enjoyed a large measure of autonomy for fifty years as the sanjak of Lebanon, from 1864 to 1914. The rest of the Lebanese republic formerly was part of the Turkish provinces of Damascus and Beirut, while Syria has been created out of portions of three Turkish provinces: the south part of Aleppo, the north part of Damascus, and the north part of Beirut province, with a large area of the Jezireh between the Tigris and Euphrates (Fig. 1). The French mandate originated in the attempt to reconcile the conflicting claims of three allied parties, Great Britain, France, and the Arabs. Great Britain proclaimed her disinterestedness in this north-west section of the Arab peoples but pressed her claims for consideration in the south and east—Palestine, Transjordan, and Iraq—on the ground that a guarantee over these was vital to her communications with India and the East. France had old ties, material and sentimental, with the north-west, particularly with the Lebanon, which contained a substantial Christian element in communion with the Roman Church, for whose future powerful parties in France were much concerned. The Arabs wanted the whole.

The British were prepared to support Arab claims in so far as they did not imperil their own interests or involve an open rupture with France. The result was a compromise. The strength of the Arab case was recognized by the application of the mandatory system to the areas which were in dispute; five new States were created and placed in tutelage under the League of Nations, which entrusted the immediate administration of two to France—Syria and the Lebanon—and three to Great Britain—Iraq, Transjordan, and Palestine; these States were to win their independence after a period of probation when they had proved that they were able to stand alone in 'the strenuous conditions of the modern world'. The solution did not satisfy the Arabs, and events which happened before the mandates were granted were calculated to increase their misgivings. It had been intended that the area under the French mandate should include Cilicia and the large mixed cities north of Aleppo, with which its history and economics had been intimately bound, but the French after sustaining some defeats at the hands of the Turks decided to relinquish the whole of this region.

The external frontiers of Syria and the Lebanon were settled at first, roughly, by two diplomatic instruments, the Anglo-French Convention of December 1920 and the Franco-Turkish Agreement of October 1921, but several small changes were made before the boundaries were delimited more closely or demarcated on the ground. The boundary with Palestine was delimited in 1923; that with Turkey not till 1930; those with Transjordan and Iraq in 1932 and 1933. The last and greatest change was made by a new Franco-Turkish Agreement of June 1939 when a large area in the north-west, which had recently been formed into the republic of the Hatay, and which included the port of Alexandretta (Iskenderon) and the city of Antioch (Antakya), was ceded to Turkey by France. The internal frontier between Syria and the Lebanon was settled by the French in 1920; the old autonomous district or sanjak of the Lebanon was expanded into the Lebanese republic by the absorption of the whole littoral from the Palestine frontier to Tripoli and of four districts in the interior (Fig. 2). This carried the boundary from the sea to the crests of the Anti-Lebanon and included a long section of the main railway which connected Damascus and Aleppo.

The Frontiers

The north frontier of Syria stretches from the Mediterranean to the Tigris. The boundary starts in the west where a small stream,

the Kara Duran, flows into the sea about 9 miles south of the mouth of the Orontes. It runs deviously east to the Orontes, north along this river to the edge of the Antioch plain, which is in Turkey, and east to a point near Kasr el Benat. Thence it swings northwards to a point on the Kara Su river near the station of Meidan Ekbes (*Turk.* Meydaniekbez). From Meidan Ekbes it runs in an easterly direction to the station of Choban Bey (Çobanbey) on the Baghdad railway, whence it follows the line of the railway as far as Kamichlieh (Nusaybin) in the northern Jezireh, leaving the actual line and the railway stations and sidings in Turkish territory. At Kamichlieh the frontier crosses the railway and turning east-north-east reaches the Tigris at Jeziret ibn Omar (*Turk.* Cizre); thence it follows the winding course of the Tigris for about 20 miles south to Pesh Khabur (*Turk.* Bişhabur).

On the east, the frontier which divides Syria from Iraq leaves the Tigris at Pesh Khabur and turns south-west across the Jezireh, cutting the Baghdad railway for the third time at Tell Kotchek. Curving south-west it crosses the westernmost extension of Jebel Sinjar and then runs south, to the east of a line of lagoons which belong to Syria, and reaches the Euphrates, which it crosses just below Abu Kemal. From Abu Kemal it runs south-west in a straight line across the desert until it reaches the east boundary of Transjordan at Jebel Tenf.

The frontier between Syria and Transjordan continues in the same direction to Tell Rafai, south-south-east of Salkhad in the south of the Hauran. From this point it turns west-north-west towards Deraa. Deraa and the line of the railway to Haifa down the valley of the Yarmuk, from Deraa to El Hammeh, are on the Syrian side.

At El Hammeh the eastern frontier of Palestine is reached. This boundary was drawn to include in Palestine nearly the whole of the Jordan valley. It runs north from El Hammeh towards Baniyas, east of the sea of Galilee and Lake Huleh (Hula); near Baniyas it turns west for about 10 miles to Metulla, and then abruptly south to beyond Kades, whence it runs west again to the coast at Ras en Nakurah.

The west boundary of the two States from Ras en Nakurah to Kara Duran is formed by the Mediterranean. Strategically these boundaries have nothing to commend them; the northern boundary is perhaps the only one in the world which is formed by a railway line; to the south and east the country merges, geographically, into Iraq and Transjordan.

FIG. 1. *The Turkish administrative districts*

FIG. 2. *Provinces of the Syrian and Lebanese Republics*

Geographical and Administrative Divisions

The country enclosed by these boundaries covers about 57,900 square miles. It is not a physical or natural unit. On the west it consists of massive mountain ranges, the Ansariyeh mountains in the north and the double range of Lebanon and the Anti-Lebanon in the south. The Ansariyeh mountains are separated from the rest of the country by a deep valley which continues southward between Lebanon and Anti-Lebanon. The Lebanon and the Ansariyeh may almost be regarded as two islands at the east end of the Mediterranean; they are typically Mediterranean in climate. The country farther east is very different. In the far north, east of Turkish Alexandretta, there is a series of tablelands and steppes stretching to the Euphrates and Tigris; the rainfall averages 10 to 20 inches, the soil is fairly fertile, and in many places it is watered by streams which rise in the Turkish mountains. South of this zone, and east of the Orontes, the steppe-land merges gradually into the Syrian desert, where rainfall is always scanty. The cultivated area, however, extends surprisingly far to the east. In the south the dry country begins fairly abruptly to the east of the Anti-Lebanon, but is interrupted by the oasis of Damascus which is irrigated by streams flowing from the Anti-Lebanon, south of which lie the volcanic grain-lands of the Hauran and Jebel Druse, reaching almost to the Transjordan frontier.

The Lebanese republic is divided into five small provinces of very local significance, but those of Syria are larger and correspond to historical and geographical facts (*see* Fig. 2). In the west the Jebel Ansariyeh forms the semi-autonomous province of Latakia, which city is its capital. In central Syria the provinces named after the cities of Aleppo, Hama, and Homs contain the cultivated steppe-lands, which are continued eastwards in the north by the provinces of Deir ez Zor and the Jezireh, of which latter the administrative centre is Hassetche. In southern Syria are the provinces of Damascus, the Hauran (capital, Deraa), and the Jebel Druse (capital, Suweida). The Syrian desert or Hamad is bounded by the provinces of Aleppo, Hama, Homs, and Damascus in the west and the Euphrates in the north-east. The capital of Syria is Damascus, and of the Lebanon, Beirut.

History and People

The area is rich in historical remains from the pre-Sumerian age of the Tell Halaf culture (4000 B.C.) downwards. The Syrian lands were subject to the successive empires of the ancient world, Egypt,

Assyria, Persia, Macedon, and Rome, but were often split up into numerous petty kingdoms or States, and until the Roman period were never united into an administrative whole. Only with the rise of the Moslem power was Syria governed for a short period as a whole by sovereigns resident within the country, when the Omayyad caliphs were ruling in Damascus, from A.D. 660 to A.D. 750. Later Arab, Egyptian, and finally Turkish potentates controlled Syria from afar.

The peoples of modern Syria present an extraordinary hotchpotch of religious beliefs, which reflect their long and varied history. There is a large Moslem population diversified by every schism known to the Mohammedan world, and in addition by the presence of two quasi-Moslem sects, the Druses and the Alawis, which are unknown outside this area. There is also a remarkable conglomeration of ancient eastern churches which form a substantial Christian minority throughout Syria and are a majority in the Lebanese republic. The only bonds of unity are those of language, since Arabic is for practical purposes the only language of the country. There is a strong nationalist movement inside the Syrian republic, but Syria also contains two provinces—the Jebel Druse and Latakia, the country of the Alawis—which have a strong autonomous tradition similar to that of the Christian parts of the Lebanese republic. The manner of life of the inhabitants thus depends very much upon the religious community to which they belong.

Economically the life of Syria depends upon agriculture, but though three-quarters of the population are peasants, Christian and Moslem alike, there is a surprisingly large urban population, in the cities of Beirut, Latakia, Aleppo, Hama, Homs, and Damascus, which draw their wealth from the countryside. Until the discovery of the Cape route to the farther east, Syria grew wealthy on transit trade through Mesopotamia and Persia. The aeroplane and the modern car have, so far, given Syria only a local importance in the Near East as a focus of routes; the long-distance air-routes pass via Palestine and Transjordan.

Sources of Information

Every Mandatory was obliged to present to the League of Nations an annual report about States held under mandate. The reports on Syria and the Lebanon run from 1924 to 1939; they treat of the salient political events of the year, of the progress in agriculture, trade, and industry, of the finances, of the state of public order,

education, health, and so forth. Hence much valuable information is available for modern Syria, information which was carefully examined by the Permanent Mandates Commission, which published its own findings separately. Also the Syrians have made ample use of their right of petition to the League. Their petitions were discussed with the Annual Report by the Commission, which presented its recommendations with its findings.

There is also much unofficial and semi-official material which is fairly accessible. The Institute of Damascus, which has been founded recently, has published a series of valuable memoirs on all sorts of topics connected with the people of Syria, besides a bulletin which deals mainly with art and archaeology. The journal *Syria* is a quarterly which prints preliminary reports, admirably illustrated, of the numerous archaeological researches which have been set on foot; another journal of the same type, *Berytus*, has appeared under the auspices of the American University of Beirut. Scientific papers on the natural resources of the country have embodied the results of recent investigations.

Spelling of Names

In a book of this kind, compiled from a number of sources, ancient and modern, historical and geographical, the problem of consistency in the transliteration of Arabic words into English has been difficult. In recent years scholars have made attempts to systematize transliteration, but there have been so many changes on the maps of Syria, Palestine, and Iraq that the ordinary English reader may well be bewildered. Moreover, the French use a different system for place-names on Syrian maps from those used on Palestinian and Iraqi maps, which themselves are not consistent. To mention a few instances: the word *tell*, a ruin-mound, which appears on maps of all three countries, is spelt in at least three ways, *tel*, *tell*, and *tall*; the Arabic article on adjacent maps of almost the same date appears sometimes as *el*, at other times as *al*; a district name like Bekaa appears on large-scale or small-scale English and French maps variously as Beqa'a, Beqa', Beqaa, Beka, and Bekaa. Transliteration from Arabic into English will only be uniform when a dictator of English will abolish all but one system; it can only be correct if the original Arabic is correct and can be examined; and even then it may not be recognizable locally if scholars persist in transliterating from classical Arabic.

In the preparation of this volume it has been thought best to aim at simplicity for the English reader and at some degree of consistency

throughout the book. The common words mentioned above are spelt tell, el, Bekaa; and the letter *k* is preferred throughout to *q* except for the official spelling for the neighbouring state of Iraq. The Arabic scholar will have no difficulty in transliterating the *k* back to the correct Arabic letter, and the Englishman will not be worried that his *q* is not followed by *u*, as in English; and after all he is reading English.

The final *h* and the variants *iye*, *iya*, *iyeh*, *iyah* which occur at the ends of so many place-names are another difficulty. Generally the *h* has been retained, when it is necessary for correct English pronunciation, but it has been impossible to attain consistency. In personal names such as Fatima, Abdulla, Mohammed no attempt has been made to be consistent.

Topographical Survey and Maps

In 1919 there were no accurate maps of Syria. The best was one compiled from various sources by the German cartographer Kiepert on the scale 1:400,000; there was also an indifferent Ottoman map, with names in Arabic, on the scale 1:200,000. British maps were also only compilations.

When the French undertook the mandate, the need for an accurate survey at once became apparent. A twofold policy was determined: immediate needs were to be supplied by a service staffed by engineers of the army of occupation (*Bureau Topographique des Troupes françaises du Levant*) and an accurate detailed survey was to be made by the regular survey officers of France (*Service Géographique de l'Armée*).

The Bureau Topographique with headquarters at Beirut was organized by the French General Staff in Syria to supply the troops with their immediate needs, to carry out rapid route and topographical surveys, and to publish provisional maps. Besides large-scale plans of such towns as Latakia, Beirut, Damascus, and Aleppo, it published an enlarged edition (1:100,000) of the old Ottoman map, a series of sheets (1:200,000) of eastern Syria, compiled from various sources, and a general map of the whole of Syria in six sheets printed in three colours on the scale 1:500,000. During the Druse rising its officers compiled maps of the Jebel Druse and the Damascus region from original surveys supplemented by air photographs, and have subsequently produced maps of the desert regions to the east, along the Turkish and Iraqi frontiers, and along the Euphrates. A framework of stations whose positions were determined by prismatic astrolabe and wireless time-signals enables the boundary and river traverses

to be adjusted with considerable accuracy, and route surveys across the desert are tied to it.

Maps published by the Bureau Topographique at their headquarters in Beirut include those of the Jebel Druse (scale 1:100,000), the upper Jezireh (scale 1:100,000 from boundary surveys, air photographs, and route maps), and the lower Jezireh (scale 1:200,000).

Meanwhile the more accurate triangulation framework of the Service Géographique de l'Armée from the south of the Bekaa to Aleppo, with measured bases at each end, was completed, and secondary triangulation extended on both sides of it. On this and on some minor triangulation in the Euphrates region has been based some detailed survey in the Hauran and Jebel Druse, and in certain districts farther east.

The regular surveys carried out by the Service Géographique de l'Armée have superseded much of the earlier work of the Bureau Topographique. The greater part of western Syria has now been surveyed on the scale of 1:40,000 and maps published on 1:50,000.

Summary of French Maps (Fig. 3)

1. Scale 1:50,000. Thirty-one sheets published between 1926 and 1936 in Paris by the Service Géographique de l'Armée. Mostly of western Syria. Style similar to that of the Map of France, 1922: printed in 5 colours, oblique light for hill shading, contours at 10-metre intervals. Compiled from rigorous survey on scale 1:40,000.
2. Scale 1:100,000. Number of sheets unknown. Area covered includes the upper Jezireh, Jebel Druse, and certain other districts. Normal form-line interval 25 metres.
3. Scale 1:200,000. Twenty-seven sheets covering the whole country, published between 1933 and 1937 at Beirut by the Bureau Topographique des Troupes françaises du Levant.
4. Scale 1:500,000. Six sheets, covering the whole country, published in 1935 at Beirut by the Bureau Topographique des Troupes françaises du Levant. A very clear general map, layered at 500-metre intervals.
5. Scale 1:1,000,000. One sheet, western Syria only (with inset of whole mandated territory on scale 1:3,500,000). Layered at 500-metre intervals, with intermediate 200-metre layer.

Of the above, some of the sheets noted in (3) and all six sheets of (4) have been reprinted by the G.S.G.S. The country is also covered

by four sheets of the International 1:M map (Beirut, Damascus, Erzurum, Tabriz). Maps so far completed in series 1–3 are shown on Fig. 3.

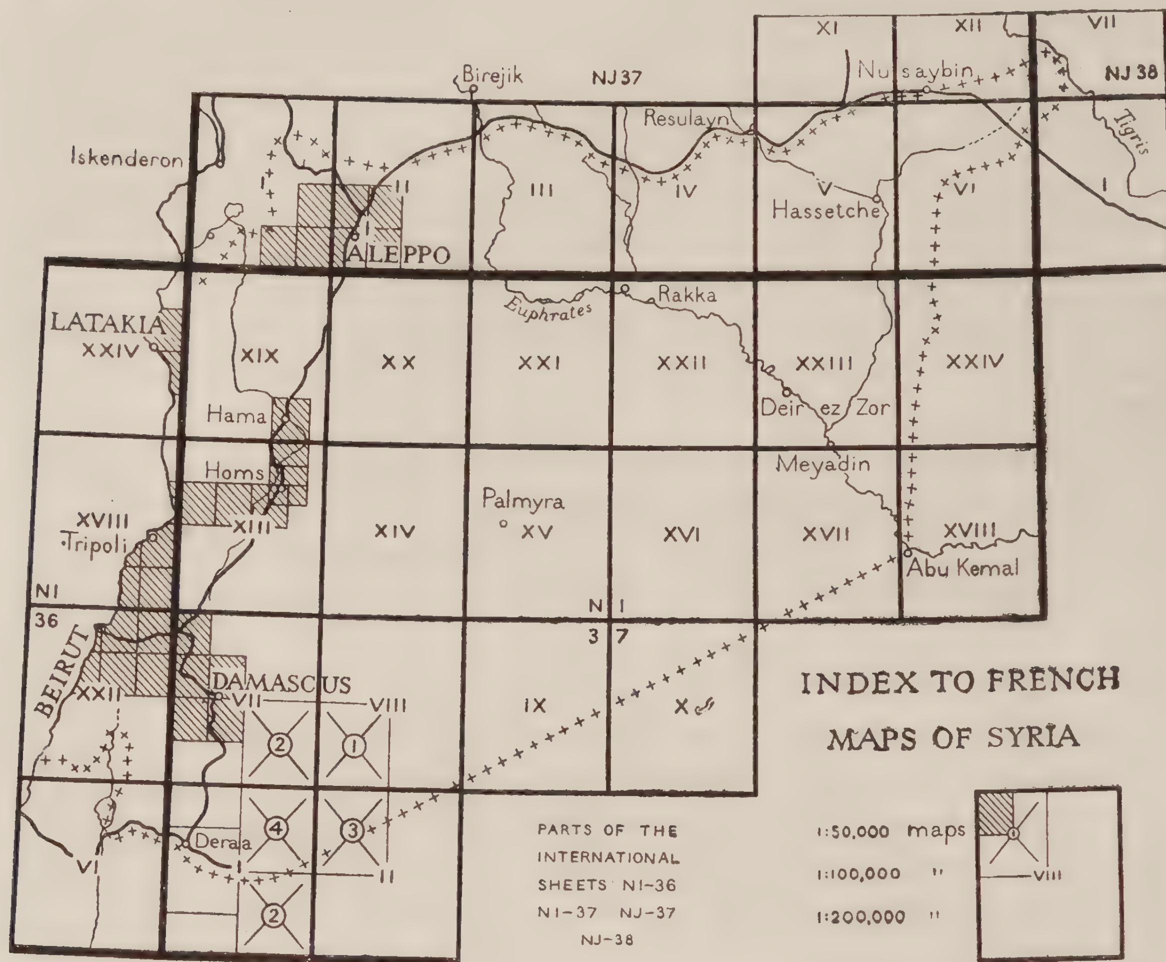


FIG. 3

A map on the scale 1:M compiled by *L'Annexe de l'Institut Géographique National au Levant* in June 1941, and reproduced by the Ordnance Survey in 1942, is included in the pocket at the end of the volume. The spellings are inconsistent with those adopted in the text.



PLATE 1. *Southern Ansariyeh south-west of Masyaf*



PLATE 2. *Western Ansariyeh and Kalaat Markab near Baniyas*

Plate 3. *Plain of Bukeiah*



Plate 4. *Jebel Akkar, northern Lebanon*

CHAPTER II

PHYSICAL DESCRIPTION AND GEOLOGY

GENERAL PHYSICAL DESCRIPTION

WESTERN SYRIA has been described as a Mediterranean island; it is Mediterranean in character and consists of two mountain ranges which lie parallel to the coast: the Ansariyeh, running due south from the northern frontier to the gap between Tripoli and Homs; and the Lebanon, which veers to the south-west from this point to the southern frontier. Parallel with Jebel Ansariyeh are a number of indeterminate ridges between the northern frontier and Hama; south of Homs the Anti-Lebanon and Mount Hermon massifs stretch south-west for more than a hundred miles. The depression between these two series of ranges, known as the Ghab in the north and the Bekaa in the south, is drained by the Orontes and the Litani. In eastern Syria the country changes in character and becomes continental, and it is here crossed diagonally from north-west to south-east by the Euphrates. In the extreme north, on both sides of the Euphrates, are the foothills of the Kurdish Taurus; south of these is a tableland with detached mountains of no great height, merging into an expanse of steppe and desert which is crossed by a few low ridges spreading fan-wise from the Anti-Lebanon and reappearing east of the Euphrates. In the south and to the east of the Anti-Lebanon and Mount Hermon is the volcanic region of the Hauran and Jebel Druse which extends beyond the southern frontier.

The description falls into the following sections:

Western Syria

1. The Coastal Ranges: Jebel Ansariyeh and the Lebanon.
2. The Depression: the Ghab and the Bekaa.
3. The Anti-Lebanon and Mount Hermon.

Eastern Syria

4. The Steppes and Desert, west and south of the Euphrates, and the Damascus Basin.
5. The Volcanic region of Jebel Druse and the Hauran.
6. The Euphrates valley.
7. The Jezireh east of the Euphrates.

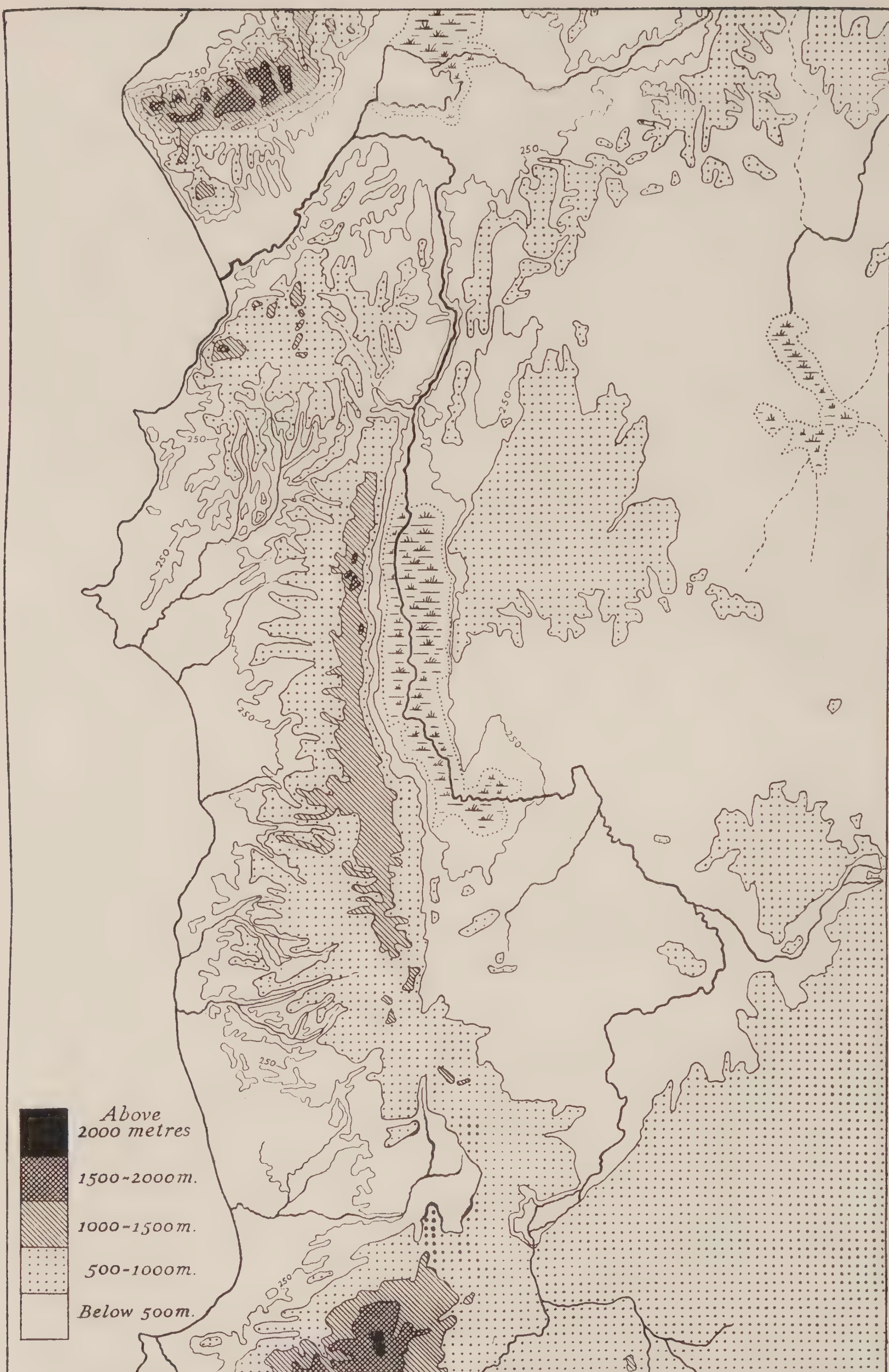


FIG. 4 *a*. *The Ansariyeh mountains and the central depression*

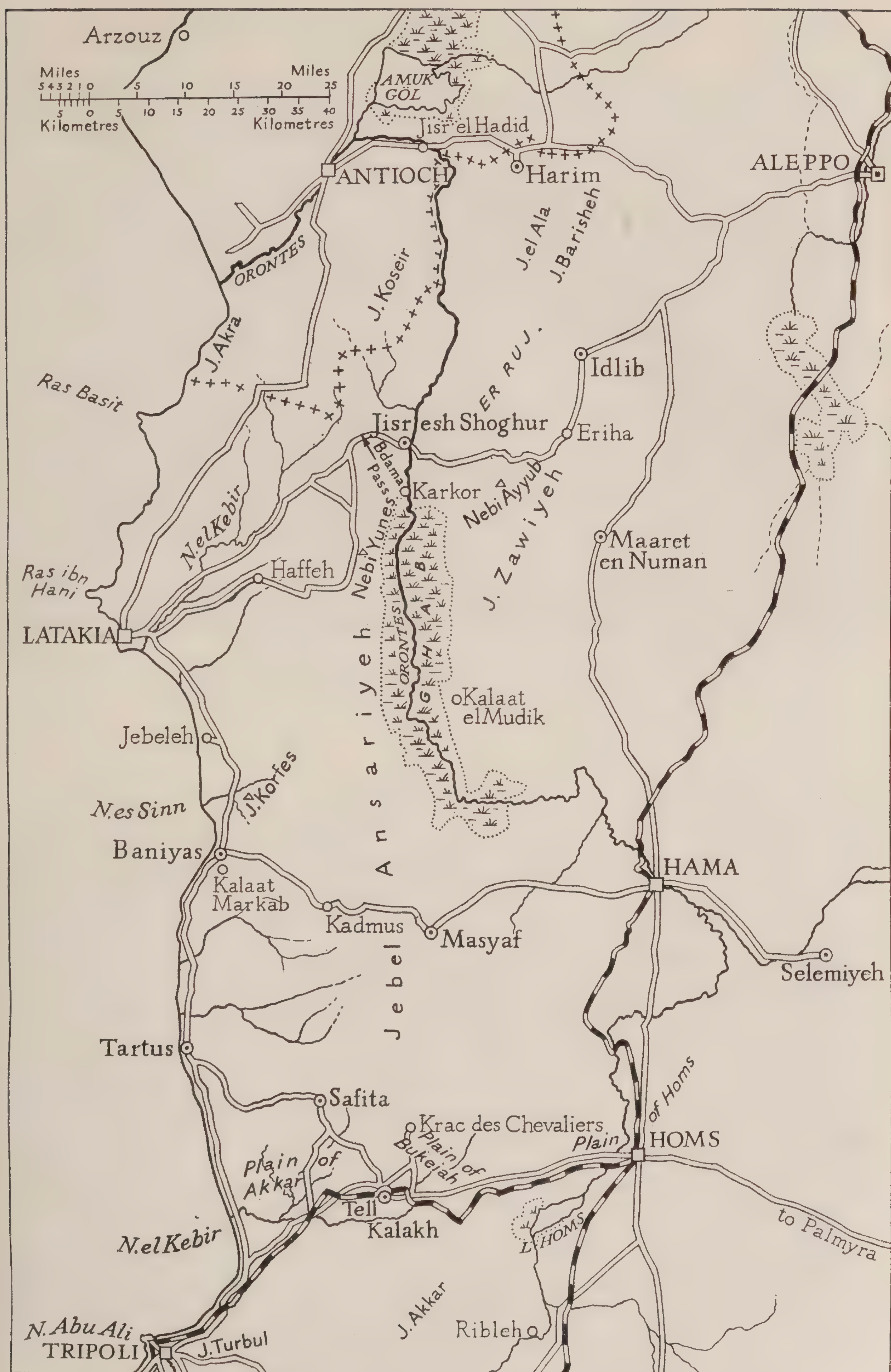


FIG. 4 *b*. *The Ansariyeh mountains and the central depression: topographical detail*

Western Syria

1. THE COASTAL RANGES: JEBEL ANSARIYEH AND MOUNT LEBANON

The Ansariyeh range (Fig. 4 *a–b*) with its northern outliers, most of which are now beyond the Syrian frontier, stretches for more than a hundred miles from the neighbourhood of Antioch (Antakya) in the north, to the valley of the southern Nahr el Kebir (ancient Eleutherus) which divides it from the Lebanon.

It averages from 18 to 22 miles in width, and forms a ridge with a fairly uniform, rounded outline, intersected by deep valleys, most of which fall to the west (Plates 1, 2). Its crest lies well to the east, on which side it falls precipitously to the Ghab, more than 3,000 feet below. The culminating peak, Nebi Yunes (5,194 ft.), is towards the northern end of the range, the crest of which rarely lies below 4,500 feet until it approaches Masyaf nearly 40 miles farther south.

In the north the principal feature is the valley of the northern Nahr el Kebir which flows from the north-east for about 28 miles to the coast immediately south of Latakia: this valley is taken by the road from Latakia to Aleppo. North of the river and west of the Orontes, the high land in Syrian territory is known as Jebel Koseir, a rounded tableland whose highest peak is 2,523 feet. South of this a series of long ridges sweep down from near the Bdama pass, on the watershed between the Orontes and the Nahr el Kebir, in a south-south-west direction towards the coast, the longest being prolonged to within a mile of Latakia. These rugged and well-wooded ridges are separated by deep ravines occupied by south-flowing tributaries of the Nahr el Kebir. South of the river in the Jebel Ansariyeh proper, the north-flowing tributaries at first enter the river from the south-east and the ridges run parallel with them, but gradually they swing round to a more westerly direction, which is the general trend of the ridges and valleys.

The main Ansariyeh range is an undulating highland, with a well-defined crest lying over to the east, from which the western slopes fall in terrace formation to the coast. Steep, rocky ridges, deeply incised by river valleys, many of which are dry in summer, alternate with small plateaux and cultivated fields (Plate 1). It is comparatively treeless and lacks surface water. Ridges, as, for example, the Jebel Korfes from which the Nahr es Sinn gushes forth, sweep down towards the west, sometimes to within a few miles of the coast, and spurs project to the sea, as at Kalaat Markab (Plate 2). Just north of



PLATE 5. *Jebel Sannin in winter, with terraced lower slopes*



PLATE 6. *Northern Lebanon near Bsharreh*



PLATE 7. *Ibrahim valley*

PLATE 8. *Nahr Abu Ali valley at Bsharreh*

Tartus the ridges recede leaving the plain of Akkar, the largest expanse of plain along the whole coast.

South of a line from Baniyas to Masyaf the range is wider but lower, few peaks rising above 2,000 feet, and it falls in gradual slopes, broken by minor ridges projecting in a general south-westerly direction, to the Tripoli–Homs gap. To the south-east the main crest of the ridge sinks gently to low country west of Homs; another ridge projects southwards to the narrowest part of the gap in the neighbourhood of Tell Kalakh; in the region of Safita the hills are rounded and well wooded. Six and a half miles north-north-east of Tell Kalakh stands the old Crusaders' castle of Kalaat el Hosn (Krac des Chevaliers), which stands upon a height (2,460 ft.) dominating by nearly 1,600 feet the plain of Bukeiah at its foot to the east (Plate 69). This plain lies between the south and south-eastern ridges, and is said to be a fragment of the Ghab depression subsequently blocked by more recent earth movements (Plate 3). It is a level stretch of ground intersected by drainage channels from the southern Nahr el Kebir, and about 9 miles in length from north to south, and 5 miles broad. South-westwards towards the coast and the plain of Akkar the slopes fall in a series of low hills and swells.

The coast, which is described in the next chapter, consists largely of shingly bays, low cliffs, and sandy beaches; there are some cultivable areas in the neighbourhood of Latakia and Jebeleh; in the south the fertile plain of Akkar covers more than 30,000 acres (p. 62).

The Lebanon range (Fig. 5 *a–b*) is on a larger scale and is more varied than Jebel Ansariyeh, the crest lying well over to the east in the same way; on the west a succession of ravines and terraces lead down to the coast, on the east the ground falls away precipitously to the Bekaa.

The northern end of the Lebanon, Jebel Akkar, rises steeply from the plain of Bukeiah, a wooded ridge whose eastern slopes, longer and less precipitous than those farther south, merge into the plain of Homs. The range is highest between here and the col of Dahr el Beidar, nearly 60 miles to the south, the pass by which the railway and main road from Beirut cross the range to Damascus.

From Jebel Akkar the mountain range rises rapidly to a tableland 8,200 feet high, from which rise several peaks over 9,850 feet, the highest being Kornet es Sauda (10,131 ft.); 5 miles south-west of it at Bsharreh is a great horseshoe-shaped ridge, above which is the finest surviving group of cedars; to the east, over 2,000 feet below, is the ravine of the Ayun Urkush (Plates 4, 6). Between this plateau and the next outstanding ridge, Jebel Mneitri (9,209 ft.), the range is

furrowed with wadi-beds from all directions draining into hollows where snow remains most of the year, and leading to underground reservoirs, the sources of many streams. Eighteen miles south-west

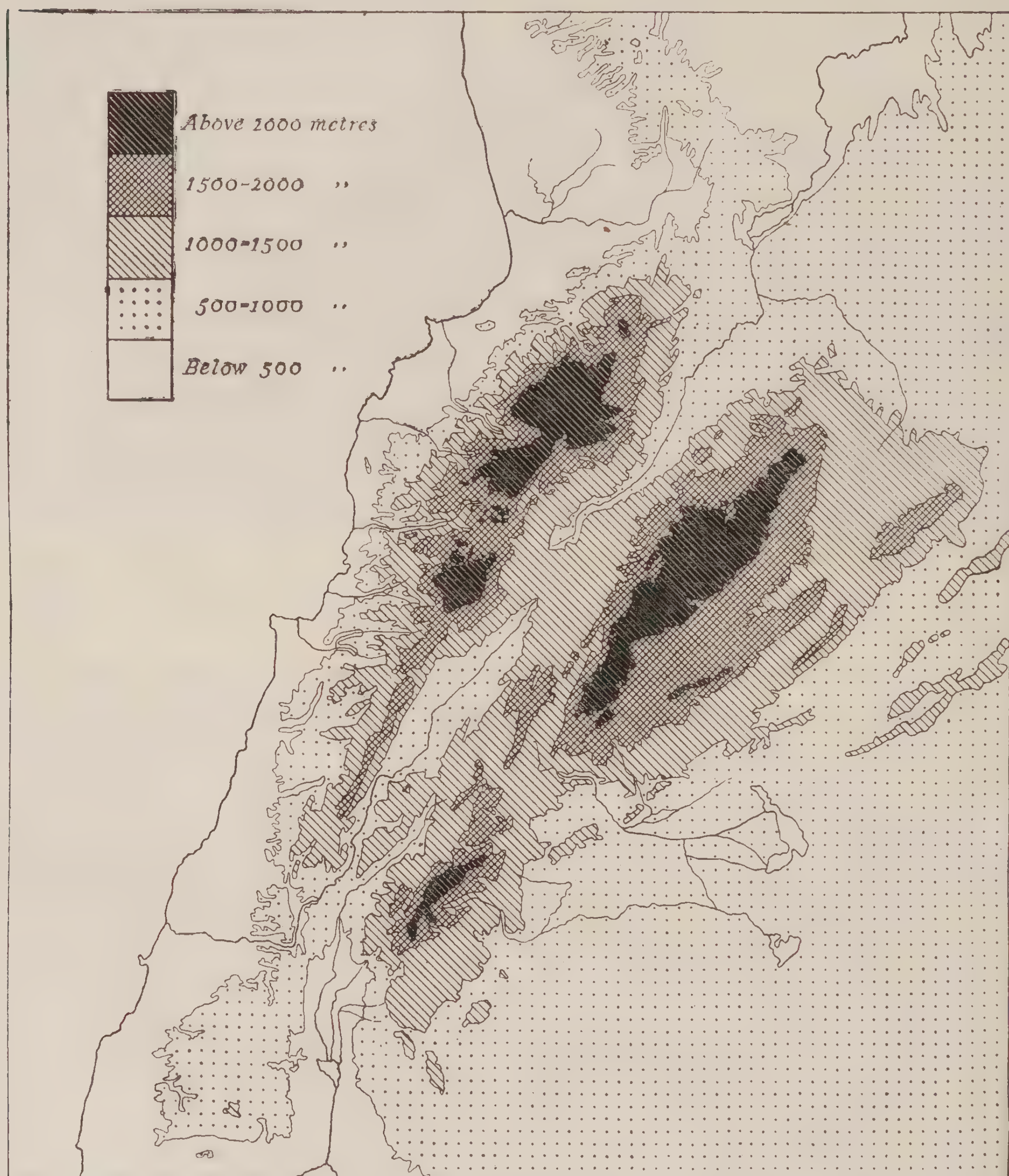


Fig. 5 *a*. *The Lebanon, Anti-Lebanon, Bekaa, and Hermon*

of Jebel Mneitri, at whose foot rise the headwaters of the Nahr Ibrahim, is the great truncated pyramid of Jebel Sannin rising to 8,622 feet, at the head of two deep valleys (Plates 5, 7); the Nahr el Rhamka, one of the head-streams of the Nahr Beirut, and the Nahr Hardun, a tributary of the Nahr el Kelb. Eight miles south-west of

Jebel Sannin is the ridge of Jebel Keniseh (6,860 ft.), which overlooks the important pass of Dahr el Beidar (5,057 ft.). On its western

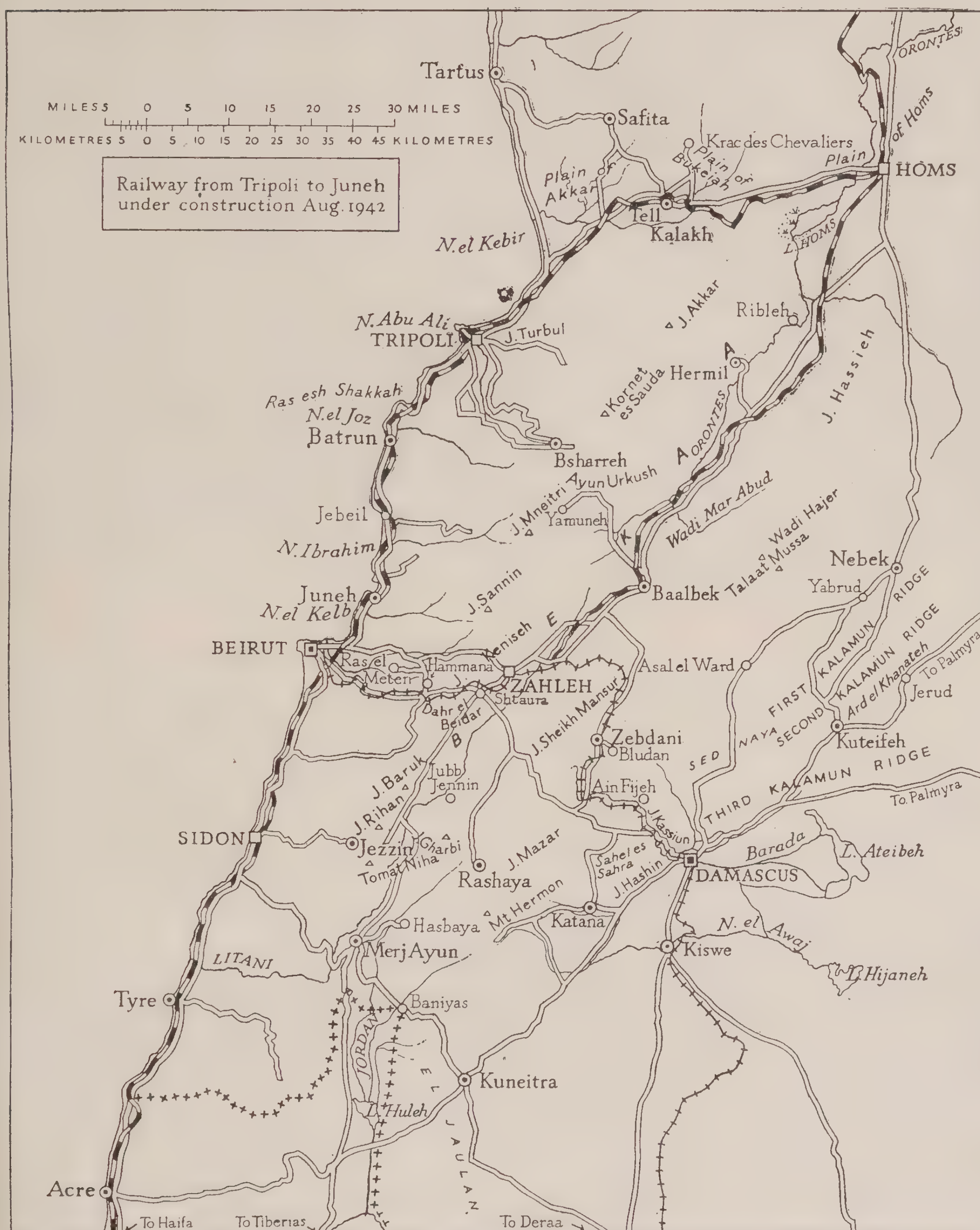


FIG. 5 *b*. *The Lebanon, Anti-Lebanon, Bekaa, and Hermon: topographical detail*

flank the Nahr el Meten rises in a natural amphitheatre above Hammana, and falls steeply to Ras el Meten, where it unites with the Nahr el Rhamka. Between Jebel Sannin and Jebel Keniseh is

an area of bleak, treeless ground, traversed by the road from Beirut to Zahleh, and broken by innumerable wadis and small hollows.

South of the pass the main ridge rises to between 5,100 and 5,800 feet. It is much narrower, and continues south for a further 35 miles under the name of Jebel Baruk. At its southern end it is locally known as Jebel Niha (5,935 ft.) and Jebel Rihan. South of Jezzin the main crest of the Lebanon is sometimes broken up into lesser ridges, and ill-defined; the range may be said to end in the twin peaks of Tomat Niha, from which it falls away south-east to the plain of Merj Ayun, south to the Litani, and south-west to the coast near Sidon. Beyond the Litani the hills are even lower and more broken, as they pass into the Palestine highlands of Galilee. (Plates 9, 13.)

The upper region of the Lebanon, known as the *jurd*, is bleak, stony, and desolate. It is made up of plateaux, with bare denuded peaks covered by snow for most of the year—a limestone country where sinks, swallow-holes, and fissures carry water and melted snow to underground reservoirs (Plate 10). These uplands afford good pasturage for the shepherds of the Bekaa who bring their flocks here in summer.

The middle slopes, *wusut* in Arabic, lie below 5,500 feet. They are the most densely populated region in the Lebanon; villages are found on the steep mountain spurs up to a height of more than 4,500 feet, and cultivation to more than 5,200 feet wherever it is possible to reclaim a patch of earth (Plate 5). The most characteristic feature of the *wusut* is the series of huge horseshoe-shaped amphitheatres, or cirques, at the head of deep valleys and rocky gorges, separated by crags of fantastic shape, tabular blocks with perpendicular flutings, and truncated pyramids; it is in such surroundings that rivers like the Nahr Ibrahim (Adonis) and the Nahr el Kelb have their sources (Plate 39). In the mountains behind Beirut the gorges and spurs are covered with pines and other trees. The rocky slopes are reclaimed by terracing, and the plateaux between them are intensely cultivated with mulberries, vines, and other fruit-trees. Farther south these features are less pronounced, and in Jebel Rihan rounded ridges and spurs separating broader valleys sink gradually to the coast. The precipitous eastern slopes are mostly barren and uninhabited, villages lying chiefly at their base: on these lower slopes there is intense viticulture, the wine of Ksara being renowned. In the north, the slopes fall steeply to the headwaters of the Ayun Urkush, which lie 3 miles south-east of Kornet es Sauda. This stream is one of the principal feeders of Lake Yamuneh into which it



Plate 9. *Upper valley of Nahr el Meten near Hammana*

Plate 10. *Natural limestone bridge over Nahr el Leben*



PLATE 11. *Orontes gorge at Seiar*



PLATE 12. *The Ghab at Kalaat el Mudik, and ruins of Apamea*

drains 12 miles to the south-west. East of the Ayun Urkush the ridge rises again to a height of over 6,000 feet before dropping more gradually to the Bekaa.

Lower down is the coastal strip, *sahel* in Arabic, along which are the sites of the old Phoenician towns of Tyre, Sidon, Beirut, Byblus, and of later towns which have taken their place. At Ras esh Shakkah and elsewhere, especially between Tripoli and Beirut, the ends of long mountain ridges project as high promontories out to sea. Between them the coast is similar to that at the foot of the Ansariyeh mountains to the north, cliffs alternating with sand-dunes and narrow strips of intense cultivation; only near Sidon does the cultivation reach farther inland from the coast. The small extent of cultivable land along the shore, and the formidable character of the mountain barriers behind, explain why the Phoenicians were forced to look to the sea and seek colonies beyond it. (Plates 44–53.)

2. THE DEPRESSION: THE GHAB AND THE BEKAA

The long depression (Figs. 4, 5) which separates the maritime ranges from the interior is another obstacle to through communications at right angles to the coast, though it is not so deep as the Jordan valley in Palestine, and is much less uniform in character. It falls into four sections.

(*a*) At the north end the bottom of the depression is little more than the deep rocky defile through which the Orontes descends for more than 12 miles from Jisr esh Shoghur to Jisr el Hadid on the road between Antioch and Aleppo (Plate 11).

(*b*) South of Jisr esh Shoghur is the Ghab, which stretches for 38 miles from north to south, measures about 9 miles across at the widest, and covers an area of about 100,000 acres. The bottom of the valley lies 650 feet above sea-level; on the west the Ansariyeh mountains tower more than 3,000 feet above it, and on the east are the lower slopes of Jebel Zawiyeh, which rises steeply for about 2,600 feet. To-day it is a great expanse of marsh, the remains of an old lake which apparently owed its origin to volcanic activity near Karkor at the end of Tertiary times, when basalt and lava-flows barred the exit of the valley. The Orontes waters have worn a passage through the basalt, but insufficiently deep or wide to drain the valley. By ensuring a better run-off near Karkor, and also by canalizing the numerous streams which rise at the base of the mountains on either side of the valley, it could be drained well enough for cultivation, and at the same time supply adequate water for irrigation. At present,

however, the Ghab is flooded in winter, the valley bottom is a lake, and communication between villages is by boat; in summer, reed-covered marshes extend on either side of the wide meanders of the Orontes. Villages lie on the lower slopes of the flanking mountains, or, in the south, on small mounds only a few feet above the general level of the ground, such as Kalaat el Mudik (*class.* Apamea; Plate 12). The river and marshes are rich in fish and waterfowl, but the stagnant water is an ideal breeding-ground for mosquitoes and flies, which makes it unhealthy, and in the summer uninhabitable for Europeans.



FIG. 6. *Baalbek, looking west across the Bekaa*

In the north the basin of Er Ruj is an offshoot of the Ghab with the same characteristics; it extends north-east from near Karkor and is separated from the main depression by a low sill.

(*c*) South of the Ghab the Orontes has cut a tortuous way back through a series of rocky obstructions. Its trench leads east and south-east round the low limestone hills between Masyaf and Hama, and it flows through gorges more than 200 feet deep. It then curves to the west, still entrenched between steep banks, before reaching the fertile basalt plain of Homs at the eastern end of the Tripoli gap. South of Homs the Orontes valley leads upstream through a broad, shallow, marshy depression to Lake Homs. (Plate 14.)

(*d*) The valley of the Bekaa (Fig. 5) begins south of Lake Homs and stretches for 70 miles southward between the Lebanon and Anti-Lebanon to Jubb Jennin. At its widest the valley is about 16 miles across (Plate 13). The high ground which forms the watershed between the Orontes and the Litani rises to 3,600 feet opposite the



PLATE 13. *The Bekaa and Jebel Baruk*



PLATE 14. *Orontes valley and plain of Hama*



PLATE 15. *Barada valley and Anti-Lebanon*



PLATE 16. *Barada gorges*

ruins of Baalbek (Fig. 6). The northern Bekaa through which the Orontes flows is very different from the southern. North of Baalbek the soil is poor; there are stretches of rich land near the springs of Hermil and in the neighbourhood of Ribleh, but elsewhere the valley is crossed by hard sterile ridges and swells, strewn with basalt boulders mixed with limestone and flint. South of Baalbek the surface is undulating, the red soil rich and well cultivated. At Jubb Jennin the valley of the Litani narrows: the Bekaa is here blocked by Jebel Gharbi, a low limestone ridge which has been pushed up in the



FIG. 7. *The southern Bekaa looking west across the Litani gorge to the sea*

central depression between Hermon and the Lebanon (Fig. 7). The Litani skirts the western slopes of Jebel Gharbi and ultimately makes its way to the sea past Merj Ayun through the southern Lebanon (p. 48). Another stream, which gathers waters from the eastern slopes of Jebel Gharbi, and the west of Hermon, continues the line of the depression past Hasbaya into the Jordan valley, though the structure of the latter differs from that of the Bekaa (p. 43). A road from Tiberias in Palestine traverses the Bekaa past Zahleh and Baalbek northwards to Homs, crossing two roads from the coast at Merj Ayun and Shtaura: (i) from Sidon by Merj Ayun to Kuneitra, and (ii) from Beirut to Damascus.

3. ANTI-LEBANON AND HERMON

The Anti-Lebanon and Mount Hermon together dominate the eastern side of the Bekaa (Fig. 5) and form another formidable barrier to communication from the sea. They stretch for more than 130 miles

from north-east to south-west, divergent about 7 degrees from the Lebanon. The four ridges composing the Anti-Lebanon massif have been compared to the four fingers of a left hand pointing northwards, palm upward. Mount Hermon represents the palm, the main Anti-Lebanon ridge the forefinger, and the three Kalamun ridges are the remaining fingers. The base of the 'fingers' is isolated from the 'palm' by the Zebdani depression which cuts across the massif from north-west to south-east, a natural routeway taken by the railway from Beirut across the Bekaa to Damascus. In some ways the Anti-Lebanon is more imposing in form than the Lebanon, but there is great contrast between the arid northern sector, sheltered from the rain-bearing winds by the highest peaks of the Lebanon, and the fertility and greenness of the south. The mountain slopes are cut by wild and rocky ravines, but perennial streams are lacking, springs being mostly found on the lower slopes.

The main Anti-Lebanon ridge whose northern tongue is Jebel Hassieh, rises from the plain of Homs 17 miles south of that town and stretches south-west for 65 miles to the Zebdani depression (Plate 15). It is a broad, barren upland of an average height of 7,000 feet, with only a few patches of woodland in the north; it falls precipitously westwards to the Bekaa, but more gently eastwards to the level ground separating it from the first Kalamun ridge. North of Baalbek the steep western slopes are cut by the Wadi Mar Abud, whose direction for 10 miles lies parallel to the main trend of the range before it turns westward to the Bekaa. The Anti-Lebanon rises steeply in the north to two high peaks situated roughly at the same latitude as Nebek, Talaat Mussa (8,579 ft.) and Wadi Hajer (8,625 ft.). The main ridge then falls slightly to an average height of 6,500 feet for 24 miles until it rises again and reaches its highest elevation of 8,860 feet, 8 miles north-east of Zebdani. The region round Zebdani and Bludan is the most fertile part of the range; springs abound, and orchards and vines grow in the numerous valleys which drain towards the depression (Plates 15, 16).

Mount Hermon is one of the most imposing mountains in the country, and is seen as far away as the Ghor in Palestine and from beyond the coast of Syria (Plate 18). In form it resembles a gigantic fin-back whale. The base and lower slopes are of basalt, above is limestone similar to that of the Lebanon and Anti-Lebanon. The summit is oval in plan and fairly level except for three small peaks which lie within a quarter of a mile of each other, the highest being 9,232 feet. It is snow-covered, except in the middle of summer, and



PLATE 17. *Halbun gorges in the Kalamun*



PLATE 18. *Hermon in winter from south-west*



PLATE 19. *Oasis and village of Mnin in the Kalamun*

PLATE 20. *Rashaya in north-western foothills of Hermon*

treeless, and the surface is covered with stones and loose boulders. On the lower western and south-western slopes the vineyards, orchards, and oak-woods, which grow near Hasbaya, Rashaya, and Baniyas, are watered by copious springs (Plate 20). On the south-west the mountain falls steeply to the Jordan valley, the southern slopes pass into the volcanic region of the Jaulan and Hauran, and on the east the Nahr el Awaj, which waters the villages south of Damascus, has its source in a valley below a sheer wall of 6,000 feet. Northwards towards the Zebdani depression there are two prolongations, one north-north-west which stretches along the side of the Bekaa, Jebel Sheikh Mansur (6,178 ft.), the other, Jebel Mazar (5,033 ft.), falls



FIG. 8. *Maalula, a village of the first Kalamun ridge*

north-east to the depression, and is separated from Jebel Hashin by the plain of Sahel es Sahra.

On the east of the main Anti-Lebanon ridge the three Kalamun ridges, with level ground between them, diverge to the north-east and east-north-east (Plates 17, 19). They are of dazzling white limestone, steep-sided, gravelly, and bare with scree boulders on the slopes and at the foot of the cliffs (Fig. 8). The first, or westernmost Kalamun ridge, which is the shortest, is separated from the main Anti-Lebanon range by a wide upland, an area of inland drainage, in which is the village of Asal el Ward. It starts in the region of Ain Fijeh, passes south-east of Yabrud and Nebek, and finally sinks to the plain about 24 miles north-east of Nebek. Between the first and second ridges is the plain of Sed Naya which in the north is followed by the main road from Damascus to Homs after it has cut through a gorge in the second ridge. The middle Kalamun ridge emerges a few miles north

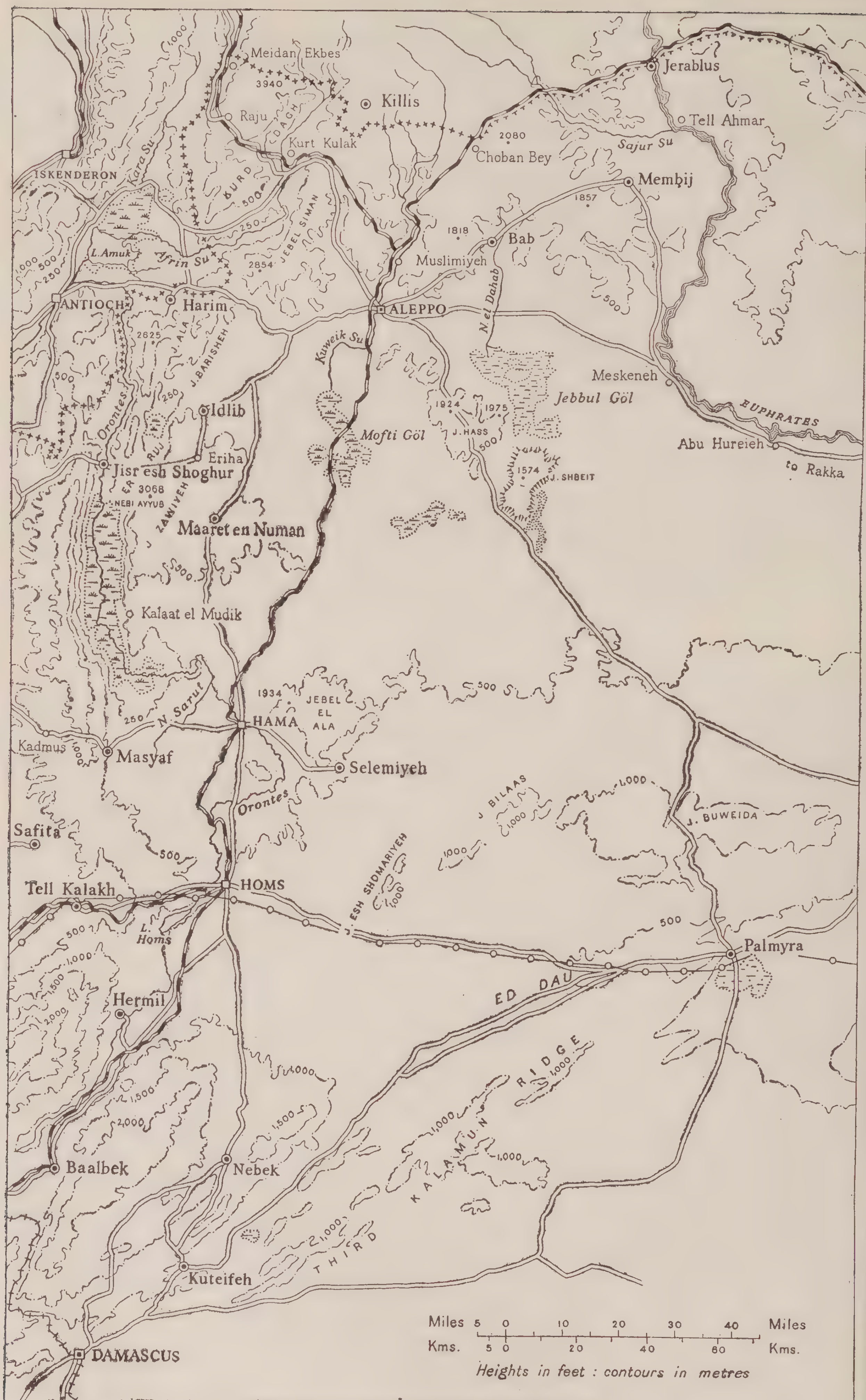


FIG. 9. *The steppes and the desert west and south of the Euphrates*

of Damascus, is broken by a gorge after 19 miles through which passes the road to Homs, and reaches 40 miles north-east of Kuteifeh. The third, easternmost, and longest Kalamun ridge begins west of Damascus as the Jebel Hashin, dominates the capital as the Jebel Kassiun, then makes east-north-east for more than 130 miles as far as Palmyra. It is separated from the middle ridge in the neighbourhood of Kuteifeh and Jerud by a broad plain, Ard el Khanateh, in which there are several salt lakes (*sabkhas*), and which is well cultivated near the larger villages. (Plates 21, 22.)

Eastern Syria

4. THE STEPPES AND THE DESERT WEST AND SOUTH OF THE EUPHRATES

(*a*) *The Kurdish Foothills*

A series of rolling uplands (Fig. 9), separated by rivers or watercourses, stretches along the north of Syria between the Kara Su and the Euphrates. The westernmost of these, lying between the Kara Su and the Afrin Su, northern tributaries of the Orontes, is the southern end of the Kurd Dagh (*Turk.* Kurt Dağ), steep on the west side, but falling eastwards in rolling downs. Close to the Turkish boundary it rises to 3,940 feet; towards the south it is broken by a tributary of the Afrin, the course of which is followed by the railway from Turkey to Aleppo, between the stations of Raju and Kurt Kulak, part of the 'Baghdad railway'. Water is scanty on the upland, but the country is otherwise generally fertile, wooded, and has been heavily populated in the past (Plate 23).

The broad valley of the Afrin divides the Kurd Dagh from Jebel Siman, another rounded upland of the same character, fairly fertile but treeless, which is named after S. Simon Stylites. The highest point, Sheikh Barakat (2,854 ft.), is almost 12 miles west-north-west of Aleppo.

East of Jebel Siman is the Kuweik valley with a third upland beyond it, from which the ground slopes gradually towards the Euphrates (Plate 24). The Kara Su and the Afrin both drain into Lake Amuk (*Turk.* Amik), and so to the sea by the Orontes (Asi) mouth: the Kuweik is lost in the salt marshes of Möfti Göl, an enclosed basin south of Aleppo; streams farther east form the salt flats of Jebbul Göl enclosed in a similar basin. The main road from Aleppo to the Euphrates passes between these uplands and the marshes.

(*b*) *The Highlands East of the Orontes*

Farther south (Fig. 9) there is a series of indeterminate highlands where many of the same features are reproduced. South of the Afrin and east of the Orontes, two small ranges, trending from north to south for 15 miles, and partly separated by a deep valley, lie north-west of the Er Ruj depression with Jebel Zawiyeh to the south-east: the western is known as Jebel Ala, the eastern as Jebel Barisheh. Both are bare and composed of rocky limestone with steep, rugged sides from which much of the soil has been washed away by winter torrents and rains to the rivers and marshes below; only small patches of cultivable land remain. At their higher northern ends they rise to over 2,500 feet; both were once well populated.

South of them and east of the Ghab is Jebel Zawiyeh, 14–16 square miles in area, a low undulating upland intersected by watercourses, none of which form perennial streams. It stretches for more than 37 miles southwards to the low ground near Kalaat el Mudik and is about 20 miles wide. Jebel Zawiyeh is highest near its western edge, which falls more than 2,600 feet steeply to the Ghab; the eastern slopes merge gently in the steppe-lands of the interior. Although its highest peak, Nebi Ayyub (3,068 ft.), is higher than any in Jebel Ala and Jebel Barisheh, the general elevation is lower, and the slopes less steep and less rugged. Except in the west where there are a few woods, the ridge is treeless, but in the neighbourhood of Idlib at the northern end, and about Maaret en Numan farther south, there are still wide level tracts of rich cultivation in the hills where olives, vines, and grain crops are raised.

(*c*) *The Steppes*

East of Jebel Zawiyeh (Fig. 9) are the steppe-lands which stretch eastwards to the Euphrates; they are limited to the north by the uplands described above, and to the south by a series of low ridges which stretch from the neighbourhood of Selemiyeh, and pass north of Palmyra north-east to the Euphrates, cutting the steppes off from the desert to the south. This rather monotonous, gently undulating area (alt. *c.* 1,000 ft.), is only relieved in the west by artificial mounds (*tells*), the sites of many villages. It slopes imperceptibly eastwards, and there are several basalt plateaux which stand out from the limestone steppe-land. Between the salt marshes of Möfti Göl and Jebbul Göl are the basaltic plateaux of Jebel Hass and Jebel Shbeit, which are more fertile and better watered in the north: they reach a height of over 1,900 feet and were formerly better cultivated than now.



PLATE 21. *Third Kalamun ridge south of Karyatein*

PLATE 22. *Jebel Mankurah in the third Kalamun ridge*



Plate 23. *Kurdish foothills north of Aleppo*



Plate 24. *The Kuweik Su in the central steppes at Khan Tuman*

East of Hama is Jebel el Ala, similar in origin, with steep sides of more than 1,600 feet on the south-west, north, and east.

South of Jebel Zawiyeh lie the plains of Hama and Homs, broken only by the Orontes depression. They merge westward into the foot-hills of the southern Ansariyeh and eastward into the steppes around Selemiyeh, and are bounded on the north-east by Jebel el Ala (Plate 14).

It is difficult to estimate precisely where the cultivable steppe merges into semi-desert. In the east, wherever there are wells with a sufficient flow, cultivation is possible, as in the neighbourhood of Selemiyeh; but between such areas, and towards the Euphrates, large tongues of semi-desert penetrate from the east, and these are barren and almost uninhabited except for nomads. In the west the plains of Hama and Homs are heavily cultivated.

(*d*) *The Hamad*

Palmyra (Fig. 9) lies in the centre of the Syrian desert, roughly half-way between the plain of Homs and Abu Kemal on the Euphrates, and half-way between Damascus and Deir ez Zor (Plate 25). Several broken ridges lie slightly to the north of the town, or else extend from the south-west; one line projects for more than 100 miles from Selemiyeh to Sukneh, a station of the old caravan route from Damascus to the Euphrates, 46 miles north-east of Palmyra. Most of the component hills rise above 1,300 feet, the principal ones being Jebel esh Shomariyeh, Jebel Bilaas, and Jebel Buweida. A line of lower ridges ending in Jebel Bishri stretches north-north-east of these to the Euphrates. The pipe-line to Tripoli from the Kirkuk oilfields in Iraq passes from the Euphrates to Palmyra, keeping to the lower ground south of these ridges.

To the north-west of Palmyra lies a semi-arid steppe capable of producing good crops wherever springs and wells are to be found. Southwards, stretching across the Transjordan frontier, is the true Hamad or Syrian desert where springs are almost unknown and the few wells have a limited and irregular supply. Although the desert covers a vast area, there is considerable variety of scenery. Seemingly endless stretches of gravel, an excellent surface for cars, though hard on tyres, alternate with stony areas covered with boulders, or else there are tufts of coarse vegetation which gives the impression of steppe rather than desert, and on which camels feed. Long, low ridges and sand-dunes alternate with occasional dry wadi-beds and with *sabkhas* or clayey depressions filled with water during the winter, but dry in summer; such is the depression of Ed Dau between the

third Kalamun ridge and Jebel esh Shomariyeh (Plate 25). To the south the surface is much broken by steep-sided wadi-beds draining into small salt lakes; many of these to the east once fed the Euphrates. Some are in the process of being converted into enclosed basins or *khabras*, with rocky sides sloping up gently from a level bed which is covered with very fine soils. East of the Jebel Druse the surface is



FIG. 10. *The Damascus basin*

strewn with a mass of angular polished basalt boulders, and called *harra*. Such underground water as is found in the desert is either brackish, salt, or slightly sulphurous, generally the result of contact with underlying gypsum or volcanic action; sulphurous springs occur near Palmyra. (Plates 25–26, 66–68.)

(*e*) *The Damascus Basin*

The Damascus basin (Fig. 10) lies east of the Anti-Lebanon massif, and is partly enclosed on the north and west by the third Kalamun

ridge and Mount Hermon. To the south lie Jebel Maani and the lava plateaux of the Leja and Durs; and eastwards, beyond the Ateibeh and Hijaneh lakes, the basin is bounded by a line of low volcanic *tells* which stretch almost continuously from the base of the third Kalamun ridge, near Khan Abu Shamate, to the Durs. The oasis itself (Plate 27) covers an area of about 150 square miles, lying at an altitude of about 2,260 feet, and sloping slightly eastwards. It owes its fertility to the waters of the Barada—the Abana of Old Testament history—which issues from the Zebdani depression and is carried across the plain in seven canals; also to the Nahr el Awaj, the Wadi Mnin, and other small streams which have their sources in Hermon and Jebel Kalamun (Plate 19). Eastwards of a line from Adra in the north to Gozlaniyeh in the south barren patches of soil appear, and cereals or other dry crops take the place of olives, vines, and fruit-trees, because here the water supply, the surplus from the Damascus canals, is limited by the needs of the oasis towns. Cultivation ceases east of the desert lakes and the uninhabited desert rises gently to the east. The lakes receive the last drainage from the Barada and its canals, but usually only during the winter months. The two principal lakes, Ateibeh and Hijaneh, 10 miles apart, cover an area of about 57 square miles in winter, and are clothed with reeds 12 feet high, among which only isolated patches of water are visible.

5. THE VOLCANIC REGION: JEBEL DRUSE AND THE HAURAN

The Jebel Druse

The base of Mount Hermon is basaltic, and the country south of it is volcanic up to and across the border of Transjordan (Fig. 11). The highest point of Jebel Druse, which is nearly 70 miles south-south-east of Damascus, may be regarded as the centre of the region—a huge elliptical mass, 85 miles by 45, rising to a high plateau and culminating in volcanic cones of recent date; the highest, Tell Guineh (El Jeine), is 5,900 feet, but the plateau is so extensive and the ascent so gradual that there are few places from which these peaks are visible (Plate 29).

Many watercourses drain the western slopes, most of them affluents of the Yarmuk headwaters, but all dry up in summer. Eastwards short streams furrow the slopes, but are soon lost amongst boulders and rocks or small *sabkhas* (salt lakes). In the central and southern sections of the mountain there are wooded slopes, wild glens, bold precipices, and picturesque vales on every hand. The higher

regions are covered in many places with woods of evergreen oak; the northern and eastern slopes in contrast are destitute of trees. Alongside the extensive outcrops of basalt there are areas of fertile soil capable of raising good crops of wheat; in fact, if the many boulders scattered all over the mountain were cleared, almost all would be cultivable. One of the most fertile parts of Jebel Druse is



FIG. 11. *The Jebel Druse and the Hauran*

the region south of Kanawat where there are abundant springs, so that the valley is intensively cultivated with vines, orchards, and gardens. Suweida, the capital of the province of Jebel Druse, stands on the lower western slopes of the mountain, with Bosra eski Sham 15 miles south-south-west of it. Salkhad, 17 miles south-east from Suweida and 13 from Bosra eski Sham, and joined to both by all-weather motor-roads, stands on an isolated hill 3,940 feet above sea-level.

To the north-west beyond Shahba, a village 10 miles north-north-east of Suweida, is a wild, inhospitable, lava-covered region now called El Leja ('the Refuge'), formerly Trachonitis. Roughly oval in shape with its greatest axis lying north and south, it covers about 380 square miles, and is from 20 to 30 feet higher than the surrounding plain. The volcanoes from which it was derived are alined along a fissure running from north-north-west to south-south-east, and their remains form isolated peaks 3,000 feet above sea-level.

A similar but smaller region covering an area of about 60 square miles, known as El Kra, lies north-east of Jebel Druse, and joins it to Es Safa and Ed Durs, which are formed by a third lava flood (Plate 28).



FIG. 12. *Looking north from Tell ed Durs along the line of volcanic cones towards Anti-Lebanon*

The latter cover about 335 square miles, and are composed of two separate outpourings from three great series of cones alined along a fracture parallel to that of the Leja vents. The larger, which issued from two sets of cones, Tulul ed Dhers (Tell ed Durs, 2,900 ft.) and Tulul Ragheïleh (Rogheile, 2,867 ft.), covers about 250 square miles (Fig. 12); the smaller, poured out from the Tulul es Safa (2,505 ft.) series of cones, extends over 85 square miles. The whole of Es Safa and Ed Durs is less chaotic than the Leja and Kra, as it resulted from the eruption of a series of cones which lie from 500 to 900 feet above the general level of the surrounding country (Plate 30).

The Hauran and Jaulan

Bounded on the north by Mount Hermon, the Nahr el Awaj, and the Leja, on the east by Jebel Druse, on the west by the Jordan valley and Lake Tiberias, and on the south by the Yarmuk, is the Hauran

with its western subdivision of Jaulan; the two districts are divided by the Nahr Alak, a tributary of the Ehrer which is one of the headwaters of the Yarmuk. It is a vast treeless expanse, and except for the broken hill country north of the Leja, lies at an average height of 2,000 feet, with a gentle fall southward. The surface, partly flat and partly undulating, is marked by volcanic mounds and basalt outcrops, sometimes frequent, elsewhere few and far between; the boulders are sometimes so numerous as to make cultivation impossible and movement exceedingly difficult away from the main roads. The plain is furrowed by widely separated wadis; those on the west in the Jaulan are more frequent and deeply incised. Everywhere the soil, which consists of soft decomposed lava, is rich and capable of raising fine wheat crops, clearance of the stony tracts alone being required to make the whole region cultivable. The Nahr el Awaj roughly separates the limestone region of the Damascus oasis from the basalt formation of the Hauran.

The hilly district of the northern Hauran is marked by two main ridges, Jebel Maani, a basalt range, which runs from north-west to south-east immediately south of the Awaj and whose highest peak, 3,569 feet, resembles a truncated cone. Parallel to it and about 3 miles farther south is the second low, rugged ridge, Jebel Khiyareh; its highest peak is 2,890 feet high. To the west is an isolated lava tract about 9 miles from east to west, and 4 miles at most from north to south. Between this tract and Hermon the country is once more strewn with basalt boulders. These features form strong natural defences to Damascus from the south in the neighbourhood of Kiswe.

Southward lies the main expanse of the Hauran. In the east, near the Leja and Jebel Druse, is the most fertile and extensively cultivated part of the whole plain. The surface is furrowed by shallow wadis falling westward from Jebel Druse. All are dry in summer except the Zeidi, one of the headwaters of the Yarmuk, which cuts more deeply across the plain from Bosra eski Sham and carries a small amount of perennial water. The plain as a whole is not well watered by streams; crops depend almost entirely on rainfall, and the most extensive grain cultivation is in those parts where perennial water is most scarce. All the villages have reservoirs which are filled by winter torrents, or they provide some kind of artificial catchment, but much water is wasted. In general, the surface between the wadis is undulating, but towards the Leja it becomes very stony and basalt outcrops may rise 20 feet above the surface. (Plates 31, 32.)



PLATE 25. *Tomb valley at Palmyra looking south-west to Ed Dau depression*



PLATE 26. *Hamad around Roman fortress at Resafa*

PLATE 27. *Oasis and city of Damascus from Salihiyeh*

In the west water is more plentiful and there are many springs. The affluents of the Yarmuk flow from north to south and not from east to west as happens farther east (Plate 32). As before, the tract is boulder-strewn, hilly in the north, more level in the south. Near the foothills of Hermon there is a series of peaks, the ruins of extinct volcanoes, prominent among them being Tell Haraa (3,589 ft.), about 11 miles south-east of Kuneitra. South of this the country is covered with volcanic mounds with plentiful spring pasturage to which the beduin bring their flocks.

The Jaulan is an immense field of irregular lava piles, disintegrated scoriae, and mounds of basalt. The surface is so strewn with boulders that it is of limited use agriculturally, but it gives good pasture. There are many perennial springs and always grass. In the neighbourhood of Kuneitra a considerable area has been cleared for cultivation. Farther south, near the Yarmuk valley, the country is less stony, more level, and better cultivated; the soil is rich and brown, similar to the Hauran proper farther east, and producing the same crops. The extensive oak forests which at one time covered most of the Jaulan have now disappeared, and only small woods and isolated groups of trees remain. The average height in the north is 3,500 feet, from which a chain of volcanic peaks stretching from north to south rise 500 feet above the plain. In contrast to the Hauran proper, rivers are deeply incised into the plain and fall over cataracts into the Yarmuk. The western edges of the plain fall steeply to the Jordan valley and Lake Tiberias, from a height over 3,000 feet above to 680 feet below sea-level; they are covered with rugged blocks of lava (Plate 136). Many small, steep-sided watercourses drain these slopes, the most important of which is the Wadi Semak.

6. THE EUPHRATES VALLEY

The Euphrates (Fig. 13), which rises far away to the north-east near Erzurum in north-east Turkey flows for about 280 miles through Syria. From the northern frontier at Jerablus (*Turk.* Carablus; *class.* Carchemish) it flows through chalk plains to the south as far as Meskeneh, where it is deflected eastwards by the folds of Jebel Bishri (*see* p. 27). From El Hammam, 18 miles above Rakka, to the Iraq border just below Abu Kemal it traverses a band of gypsum, and in this stretch the valley alters very little in character. On the right bank there are cliffs of gypsum about 300 feet high embedded with green sandstone. Between Halebiyeh and Zelebiyeh the gypsum is covered by a lava crust, and there are cliffs on both sides of

the river; on the left bank there are a few prominent hills (Plates 32–33).

On the right bank the only tributary is the Sajur Su. This river rises near Aintab (*Turk.* Gaziantep) in Turkey, not far from the head-waters of the Kuweik Su, and flows south-eastwards through gently undulating country to join the Euphrates opposite Tell Ahmar. Downstream of this there are only dry valleys, such as the Wadi Miah



FIG. 13. *The Euphrates valley and the Jezireh*

and the Wadi Suwab, which mark the course of ancient tributaries. On the left bank there are two important affluents; the Balikh (*Turk.* Belih), which rises in Turkey in the neighbourhood of Urfa, flows southward from the edge of the Kurdish foothills, through the Jezireh, and enters the Euphrates at Rakka. The headwaters of the Khabur (*Turk.* Habur), a more important stream, rise in the region east and west of Mardin in Turkey, but the chief affluent passes the frontier at Ras el Ain (*Turk.* Resülayn), and another tributary, the Jagh Jagh, drains the Duck's Bill or north-eastern region of the Jezireh. The Khabur flows south through the Jezireh and joins the Euphrates 8 miles above Meyadin; it is 50 yards wide at the confluence. Along

the eastern frontier the line of another ancient tributary of the Euphrates is marked by a series of salt flats and dry wadis lying more or less parallel with the Khabur.

The breadth of the Euphrates varies considerably in its course through Syria, and often doubles its width in flood. There are many islands and sandbanks, and in the wider parts of the valley the river meanders from side to side and frequently changes its course. From Jerablus to Abu Hureieh, 22 miles below Meskeneh, the valley floor stretches from 1 to 3 miles on either side of the river, but after Abu Hureieh the gentle slope from the banks to the desert gives way to a line of more abrupt chalk cliffs, from 200 to 300 feet high, in places close to the river, elsewhere as much as 3 miles away. In this stretch and as far as El Hammam the average breadth of the Euphrates in January (i.e. before the flood waters appear) is about 250 yards and the depth 8 feet. Four miles below El Hammam the navigable channel winds among spits of gravel and there are rapids for 3 miles, though there is never less than 6 feet of water. At Rakka the river is a quarter of a mile wide, with a sloping beach on either side. For the next 12 miles the mouths of the Balikh delta open up the left bank, but there are occasional rapids: the Mohammed Agha rapid, 300 yards long, 5 miles from Rakka, followed after a mile by the Hamra rapid, short and violent, with the channel close to the left bank. Below these rapids the Euphrates is 200 yards wide with an average depth of 8 feet in January, but about 18 miles farther on there are more rapids for 400 yards followed by shallows, sand-pits, and islands where the navigable channel is tortuous.

Between Halebiyeh and Zelebiyeh the hills, 300 to 500 feet high, close in and form gorges, the river contracting to a width of 70 yards with a depth of 7 feet (Plates 33, 34). Above the gorges eddies occur in the backwaters and navigation is dangerous; half-way through the defile there is an island; downstream the river widens to 250 yards and has an average depth of 5 feet at low water and 30–38 feet in flood, conditions which remain fairly constant past Deir ez Zor and for about 38 miles beyond, though the river in some places widens to 300 yards. In this stretch, 8 miles above Meyadin, the Khabur joins the Euphrates, and 1 mile above the town there are shallow rapids with only 4 feet of water. Below Meyadin the Euphrates narrows to 200 yards, with an average depth of 8 feet in January, and from Abu Kemal to the frontier it contracts still further to 150 yards and a depth of 12 feet.

The Euphrates is the most densely populated region of eastern

Syria, although a great many of the inhabitants are semi-nomads. Cultivation is possible along each side of the river, and from the northern boundary to Abu Hureieh a fertile belt 1 to 3 miles wide can produce wheat and barley without irrigation. From here to a point 20 miles below Rakka crops tend to give way to grazing land, except where the fertile Balikh delta allows cereals and other crops to be grown. Around Deir ez Zor and as far as Abu Kemal cultivation for a quarter of a mile on either side of the river is carried on by means of water-wheels (*sherrads*) and other primitive methods (Plates 115, 116).

The Euphrates has always been an important line of communication, but more by land than by water; river traffic, except ferries, is confined to downstream passages by *shakturs* or wooden boats from Jerablus as far as Deir ez Zor, where they are taken to pieces and used for building and other purposes. The most important route along the Euphrates valley is the continuation of the first-class road from Aleppo to Meskeneh along the right bank of the river through Deir ez Zor and Abu Kemal to Baghdad. Another road following the left bank with branches northwards up the tributary valleys into Turkey and across to Mosul is also important. Most routes crossing from the Levantine coast join one of these roads on their journey eastwards.

7. THE JEZIREH

The frontier between Syria and Iraq crosses the Jezireh (Fig. 13), or 'island' between the Euphrates and Tigris, where its width is greatest. The Syrian half is roughly triangular with the apex to the south and a 'pan-handle' or Duck's Bill projection in the north-eastern angle, where the boundary coincides for a short stretch with the Tigris between Jeziret ibn Omar (*Turk.* Cizre) and Pesh Khabur (*Turk.* Bişhabur) (Plate 36). From north to south the Jezireh is divided into three sections by the two tributaries of the Euphrates, the Balikh and the Khabur, both of which rise in Turkish territory. The northern boundary follows the Baghdad railway and is a line drawn along the outermost lava-beds of the ruined Karacali volcano, south-west of Diyarbekir; from their southern edge at about 1,300 to 1,600 feet the ground slopes gradually southward to 400 feet.

The country between the Euphrates and Balikh is a region of low, stony hills and plain, bare of vegetation except in the spring when the watercourses are full. Between the Balikh and the Khabur the hills to the north—connecting links between the Kalamun ridges of Anti-Lebanon and the border ridges of Iraq and Persia (p. 39)—show more definite trends, while the steppe is dotted with conical mounds



PLATE 28. *Safa lava flood*



PLATE 29. *Jebel Druse*

PLATE 30. *Jebel Seys volcano east of Jebel Druse*



PLATE 31. *The Yarmuk valley*

which recall the south African Veld. South and east of them the steppe is flat.

On either side of the Khabur two long ridges trending from west to east separate a northern zone of steppe-land from a desert zone in the south. The first of these, Jebel Abdul Aziz, 30 miles long and 8 miles across, rises on the north to 2,625 feet, and falls gently to the south (Plate 61). The second ridge, east of the Khabur, is Jebel Jeribeh, a western limestone outlier of Jebel Sinjar, and a distant prolongation of the ridge of Jebel Bishri which extends from near Palmyra to the Euphrates. Jebel Sinjar and most of Jebel Jeribeh lie in Iraq.

The land north of these ridges is seamed with tributaries which fall into the Balikh or Khabur, the valleys of which are enriched by alluvium washed down from the north (Plate 35). It was for many centuries before the Mongol invasion the home of a prosperous sedentary civilization, of which many traces still remain (Plate 38). The town of Hassetche, which is the new capital of the district, is on the Khabur between Jebel Abdul Aziz and Jebel Jeribeh. The two ridges are poor, the rain being carried off the steep northern slopes, or absorbed in fissures in the underlying basalt or limestone: only spiny shrubs and bushes grow on the hills. The country to the south, away from the rivers, is flat desert with a subsoil of gypsum.

GEOLOGY

The geology and structure of Syria are closely related to those of its neighbours on all sides. Arbitrary political boundaries cut across structural formations regardless of trend lines; some of the facts about structure and stratigraphy must be sought for in Turkey; others in Palestine, Transjordan, and Iraq. In the following note, therefore, some account of the historical geology of these neighbouring lands is essential to make clear that of Syria. A brief note on the stratigraphy of the country, together with a table of the strata, is given in Appendix A, p. 395.

Tectonics

An understanding of the tectonics of Syria (Fig. 14) is greatly facilitated by the existence of a fairly reliable geological map. The country falls into three main units geologically: (*a*) the over-thrust Coloured Series system in the extreme north-west, occupying a very small corner of the country, since the cession of the Hatay to Turkey; (*b*) the fan of domes diverging to the east and north from the south-

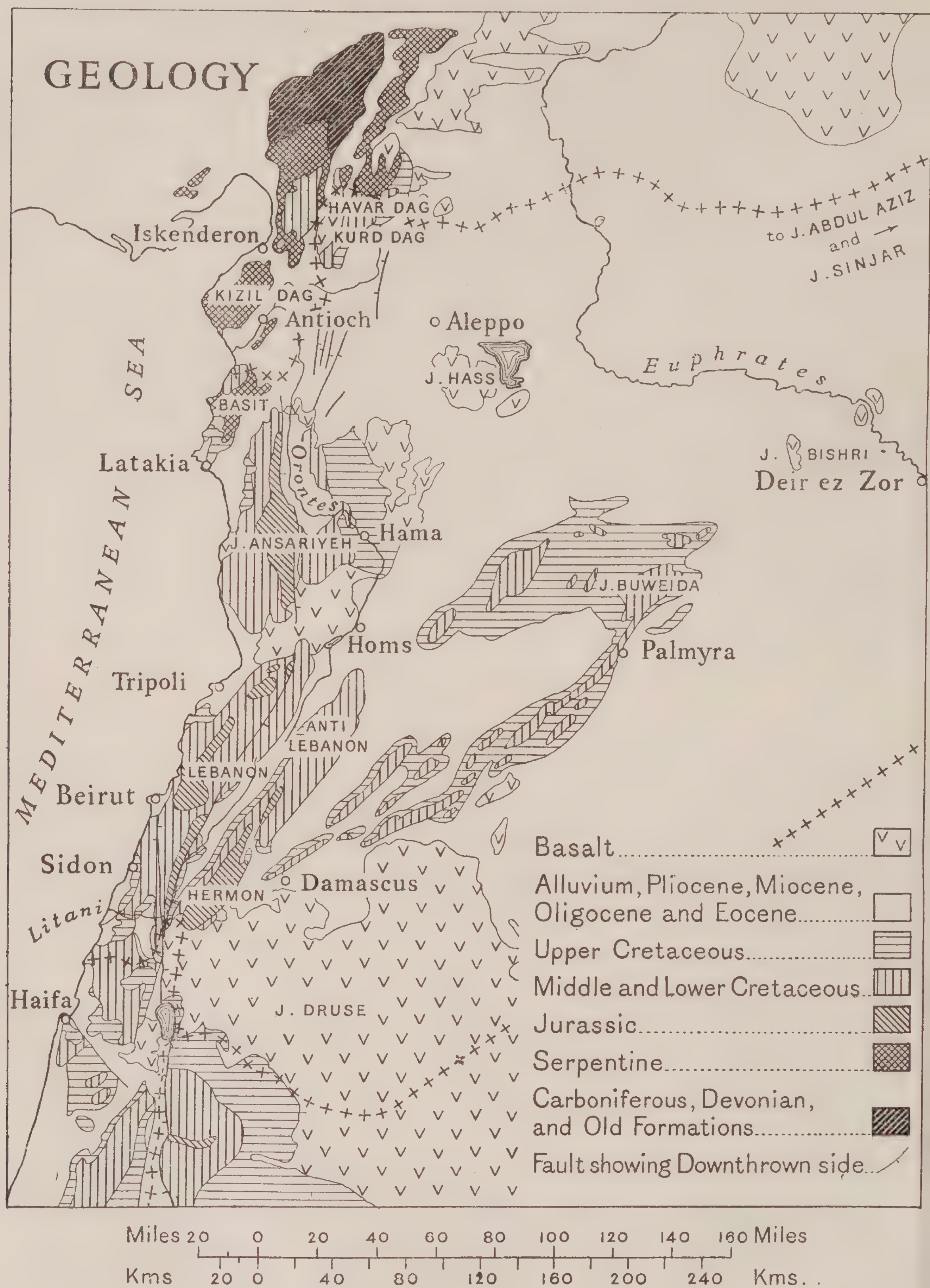


FIG. 14. *Geology of Syria*

western corner of Syria; and (*c*) the tableland of flat or slightly warped rocks building the northern part of the Arabian plateau.

(*a*) A group of hills running north-north-east from Latakia to Antioch (Antakya) and on to Marash (Maraş) in Turkey is formed by a series of serpentine, chert, and variegated crystalline limestones which were thrust over Middle Cretaceous limestones in Upper Cretaceous times and with them folded into hills. They are part of the Anti-Taurus system which can be traced through south-east Turkey, Kurdistan, Iraq, and Iran, and match parts of the Dinaric Alps in Europe. Basit and Jebel Akra, with the hills above Antioch, form the southern part of this system. They have been thrust from the north-west over the edge of the Syrian plateau.

(*b*) A sheaf of folds in south-west Syria is crowded together between Beirut and Damascus and spreads out to the north and east. The features formed by them stand up boldly at first, and then dwindle, but they reach the frontier of Turkey in the north and the Euphrates in the east before disappearing. They are seen again a little farther north-east, where they form some low hills in eastern Syria; and then, in Iraq and Persia, they grow rapidly and build the more formidable outer ranges of the Zagros mountains.

The western members of this system are giant, elongated, faulted domes forming the coastal mountains of Syria, the Lebanon, the Anti-Lebanon, and Jebel Ansariyeh (pp. 14–19). Where the curvature is sharpest, faulting has helped to relieve the strain and has given rise to flanking faults or faults grouped at the plunging ends. In Anti-Lebanon a saddle (the Zebdani depression) divides Hermon in the south from the neighbouring range to the north-east. Jebel Ansariyeh is a very wide gentle hump in the south, but it narrows northwards and is affected by a pattern of north–south faults which has broken up its northern plunging sheath into a number of prongs. One broken-down strip of it is occupied by the marsh and winter lake of the Ghab depression, along the course of the Orontes, as it flows north before turning off abruptly to flow west near Antioch. The Giaur Dagh and Kurd Dagh display cores which may be regarded as the northern prolongation of this group of folds.

The syncline or down-fold between Lebanon and Anti-Lebanon, forming the fertile depression known as Bekaa or the valleys of the Litani and upper Orontes, widens out as the folds plunge to the north; here it underlies much of the lava-dammed plain of Homs. It can be traced thence east-north-eastwards as a very gentle structure. Almost imperceptible undulations lie north-westwards until beyond

the depressed dome at Aleppo, with its internal drainage, there is a gradual rise to the eastern slopes of Jebel Zawiyeh, Kurd Dagh, and other hills on the prolongation of the eastern part of Jebel Ansariyeh. South-eastwards it rises to the low, broad domes expressed in the hills called Jebel esh Shomariyeh and Jebel Bilaas. These form a north-easterly extension of the Anti-Lebanon axis.

A series of narrow, elongated domes separated by shallow basins occupies the confined sector between these hills and the mountain front running from Damascus past Palmyra to the Euphrates a few miles north of Deir ez Zor. Each dome forms a chain, each basin a valley, the northern flanks of the domes being gentler than the southern. For some distance east of the Euphrates the beds lie undisturbed and flat, before forming into ridges again, with an east–west trend. The folds then rapidly increase in number and size eastwards and south-eastwards, where they form the border mountains of Iraq and Iran. In all of them older strata than Middle Miocene are folded; west of the Euphrates the lowest rocks exposed are Middle Cretaceous limestones, but in Jebel Abdul Aziz, a fold in the eastern 'pan-handle' of Syria, rocks of the Lower Carboniferous are to be seen directly covered by the Upper Cretaceous. Perhaps this provides an explanation for the unfolded gap between the two similar sets of folds in the south-west and north-east of Syria. A swelling on the end of the Arabian basement may have been interposed as a bar between the open Mesozoic seas on either hand. This ridge may have hindered the folding of the diminished column of beds, which were deposited without the lubricant layers that are abundant where the thickness of the strata is normal.

In the Damascus–Palmyra region the principal units are the three Kalamun ridges and Jebel Buweida, with Jebel Bishri extending east of Palmyra to the Euphrates. After a gap of about 60 miles in the same direction Jebel Jibissa rises from the plain with Jebel Abdul Aziz 30 miles north-west and Jebel Jeribeh—the western part of the Jebel Sinjar—the same distance to the north-east of it. Karachok Dagh is a range lying in the extreme north-east corner of the 'pan-handle' and is cut by the Tigris on the east.

(*c*) South of the folded zone the plain of Arabia extends as a highland, fractured in the west, falling gently to the east, and rising southwards. It is made up of a plate of very gently warped strata in which Upper Cretaceous, Eocene, and Oligocene limestones form the western part and Miocene beds cover the eastern part, much obscured by a mantle of silt, sand, and gravel. South of Damascus, and

extending for 60 miles to the east of it, a great lava sheet is spread out about 13,000 square miles in extent, and as much as 4,000 feet thick. This is so recent a development that the volcanic cones have survived in good condition within the Jebel Druse district (p. 31; Plate 30).

Five other young lava-fields are known in Syria. Three of them lie along a line running north-north-east from Homs and form very irregular sheets west of Homs, north-north-east of Hama, and south of Aleppo. One small patch occurs in an isolated position a few miles south-west of Jebel Jibissa, and the other occurs in the 'pan-handle' west of the Karachok Dagh and the Tigris at Jeziret ibn Omar (*Turk.* Cizre).

Historical Geology

The historical geology of Syria is not yet completely known and on some points there are divergent opinions. It must be recalled that Syria lies on the edge of the African–Arabian block to the south and on that of the mobile belt which crosses Asia to the north. The former has not proved amenable to folding since Cambrian times and has not, since then, ever been submerged deeply beneath the sea. The latter has folded many times; it has been deeply submerged beneath the sea at some periods and above sea-level at others. It is not surprising, therefore, that the north and south differed greatly at any given time, even though the distance is small, and that Syria has had, and still has, features characteristic of both zones.

The African–Arabian block had already acquired its massive character before Cambrian times; the early behaviour of the mobile belt is not known. In Cambrian times the northern belt formed land and the edge of the southern block was slightly depressed below the sea. The block then rose and became land, remaining so, except when flooded for a short time during Triassic times, until the Middle Cretaceous. It is possible that from an uneven edge a horn projected northwards to the region of Jebel Abdul Aziz and stood low enough in Lower Carboniferous times for the sea to lap over it. North of it the mobile belt became submerged shortly after the Cambrian and seems to have remained so between Ordovician and late Carboniferous times, when it probably emerged again. Part of it in the north was below the sea in the Trias, but it is unlikely that much of the southern part was then covered. The Jurassic sea extended in the north all round the massive block and lapped over its edge. There was a zone of open water near its coast, in which a normal limestone sequence was deposited, but farther away abnormal conditions

existed over a great area. Here extensive eruptions of basic lavas so affected the sea-water that a packet of thin beds of red chert was formed, associated both with the lavas and with masses of crystalline limestone, apparently devoid of life, and showing striking colours.

The Jurassic land on the Arabian massif was extended northwards early in Cretaceous times. Wind-blown sands and occasional flood-sheets of mud, carrying plant remains, were laid down over the future sites of Lebanon and Anti-Lebanon and extended farther north to mingle with the ashes ejected by local volcanoes. Then a sea encroached from the west, which covered Lebanon to some depth but over Anti-Lebanon was shallower. It spread little farther north or east until Middle Cretaceous times, when it covered a very wide area of the Near East. Massive limestone, 3,000 feet thick, was laid down in the coastal region and, though the beds are somewhat thin in central Syria and Iraq and seem to vanish over the Abdul Aziz ridge, they developed as a great sheet in eastern Iraq and Iran.

Soon afterwards strong compression affected the earth's crust and a sheet of the Jurassic Coloured beds from the north was thrust over the surface of the Middle Cretaceous limestones. These were themselves folded into a range of mountains which was subjected at once to rapid erosion; but in spite of this disturbance, the south was unaffected and sub-marine deposition proceeded uninterruptedly over a great part of Syria. By the end of Cretaceous times (Maestrichtian) much of the erosion of the surface folded by the disturbance in the north had been made good by a series of sediments, starting with conglomerates and ending with sands, silts, and limestones, filling in the irregularities.

In Eocene times further folding took place. The big broad anticlines of the coastal belt were partially raised and conglomerates accumulated on their flanks. The sea was still widespread but shallower, and its sediments, away from the west where there had been no commotion, passed imperceptibly from Upper Cretaceous to Eocene. There was little change in either Oligocene or Lower Miocene times, though the limits of the sea became rather more restricted, and a low shield of land lay encircling the Aleppo basin. The deposits are evidence of an open shallow sea at this period. Subsequent movements, however, brought about a marked change. Conglomerates and sandstones with a few local reefs point to further folding in the west, and most of Syria was elevated by this movement. Only in the east was the sea still present as a shallow sheet of water in an otherwise arid region, where precipitation of gypsum accom-

panied the deposits of sands and chalky limestones. Later movements produced a topography rough enough to provide a source of sands and gravels which were deposited before the folding movements were completed, probably in Pliocene times.

With the ending of the folding, movement did not stop. Western Syria became faulted, and there was a considerable uplift accompanied by an outburst of volcanicity which accounted for the great sheets of lava in the area. There is no accurate measure of the amount of uplift or of the intensity of the faulting which accompanied it. The main rivers show rejuvenated courses which, in the case of the Litani at least, is due to the uplift, and the plain about 2,000 feet high at Damascus and even higher to the south suggests that the elevation may have been of this order. It is possible that the faulting began earlier, since the Mediterranean seems to have broken down about the Middle Miocene. The fact that the lavas have also been broken by faults in the coastal area shows that vertical movement has continued until a very recent date. The great 'Rift Valley' system of Africa extends to the borders of Syria but there dies out. The topographical continuation of the Jordan valley of Palestine is a synclinal trough in Syria and not a 'rift'. There is some temptation to believe that a block forming the southern part of the west coast of Syria and Palestine has been moved some miles southwards relative to the block east of the Jordan and Litani valleys.

The study of the geology of Syria has been largely stimulated by the need of data on water supply. Some results have been achieved in this direction. The reservoir beds in the various provinces have been detected and the conditions under which uncontaminated water can be obtained in certain inland areas are now understood. Springs have been found to be of far greater importance than run-off, and much has been done to calculate the content and replenishment of the reservoirs they tap. Unfortunately this study has not led to the discovery of any mineral wealth, nor the likelihood of much.

RIVER SYSTEM AND WATER SUPPLY

Except in the desert zone, Syria is relatively well supplied with water. The narrow coastal region has more than 20 inches of rain; the higher regions of Jebel Ansariyeh and the Lebanon more than 40 inches (p. 83). In the rain shadow to the east is a zone with from 10 to 20 inches which includes the Aleppo basin, the Damascus basin, and the Hauran; the north-east plains of the Jezireh also have 10 to 20 inches. These districts surround a semi-desert area to the north

with 5 to 10 inches of rainfall, where there are some springs and many wells which provide abundant water, and the Hamad or Syrian desert proper, where the rainfall is less than 5 inches a year and where exceptional springs derive their water from the steppe-lands; wells also are extremely rare and with a limited capacity; the southern Hamad is completely waterless.

Rivers and water supply will be described by regions in the order adopted in the topographical section:

1. The rivers draining west from the coastal ranges.
2. The catchments of the Ghab and the Bekaa.
3. Rivers and wells in the northern steppes.
4. The Damascus oasis.
5. The Yarmuk basin.
6. The Euphrates, the Balikh, and the Khabur.

1. *The Rivers draining West from the Coastal Ranges*

The rivers which rise on the west side of the coastal ranges are numerous but short; their sources are generally in caverns in the limestone; these are filled from funnel-shaped depressions, or 'sinks', which collect the drift snow of the higher slopes during the winter months, and are emptied by underground channels floored by impermeable strata until they issue as copious perennial springs. Many such springs commonly form the headwaters of a single river.

The rivers flow over rocky beds to the narrow coastal plain, cutting deep ravines and frequently descending in cataracts which occur where hard limestones make sills among softer rocks. As in other limestone regions, sudden changes of direction are frequent, and many streams disappear into swallow-holes to gush out farther down the mountain-side. There are sandbanks across the mouths of most streams. At certain places along the coast, at Enfeh, Sidon (Saida), Tyre (Sur), and elsewhere, water-bearing strata discharge below sea-level, and fresh-water springs rise under the sea close to the shore. Inland of these places springs are comparatively scarce on the plains and lower hills. The rivers are swollen during the rainy season which lasts from October to April, when the streams are further augmented by percolation from melting snow. During the summer many are reduced to a mere trickle, and some dry up.

The Nahr Ibrahim, in the northern half of Lebanon, may be taken as characteristic of the perennial rivers (Plates 7, 39, 40). Its main springs, which are at Akura and Afkeh, issue from limestones which overlie impermeable strata. The Akura spring rises in a cave, and in

the early part of the year the water gushes from it, while in the summer a trickle remains hidden under boulders to appear lower down in the bed of the torrent. The principal Afkeh spring also rises in a cave at the foot of a cirque with vertical walls; a second spring issues a hundred yards downstream from a grotto, and farther down there is a third. Numerous smaller and less important ones rise in the region between Akura and Afkeh, in the zone of contact between limestone and marls. The Nahr Ibrahim, augmented by more tributaries along its course, flows through gorges until about 4 miles from the sea, where its valley opens out and its waters are used for irrigation. Some of the principal rivers of the coast and the areas they drain are as follows (those shown with an asterisk are perennial):

	Sq. miles
*Nahr el Kandil	44
*Nahr el Kebir	400
Nahr Snaubar	117
Nahr el Hussein	134
*Nahr el Abrash	67
*Nahr el Kebir (Eleutherus)	413
*Nahr Leben	61
Nahr el Barid	119
*Nahr Abu Ali (Kadisha)	202
*Nahr el Joz	51
*Nahr Ibrahim	99
*Nahr el Kelb	111
*Nahr Beirut	77
*Nahr Damur	115
*Nahr Awali	116
Wadi Serba	64
Nahr Zaharani	48
Wadi Abu Aswad	43
Wadi Maktaa	395
Wadi el Merjer	193
Wadi el Hawari	234

2. *The Catchments of the Ghab and the Bekaa*

Two rivers drain the depression, the Orontes and the Litani. The Orontes, or Asi, rises in the Bekaa at 2,900 feet just north of Baalbek, and after flowing northwards for about 250 miles it breaks through to the west and enters the Mediterranean between Jebel Akra and the Giaur (Gâvur or Amanus) range in Turkey. It is the longest river in western Syria and its course is interrupted by three

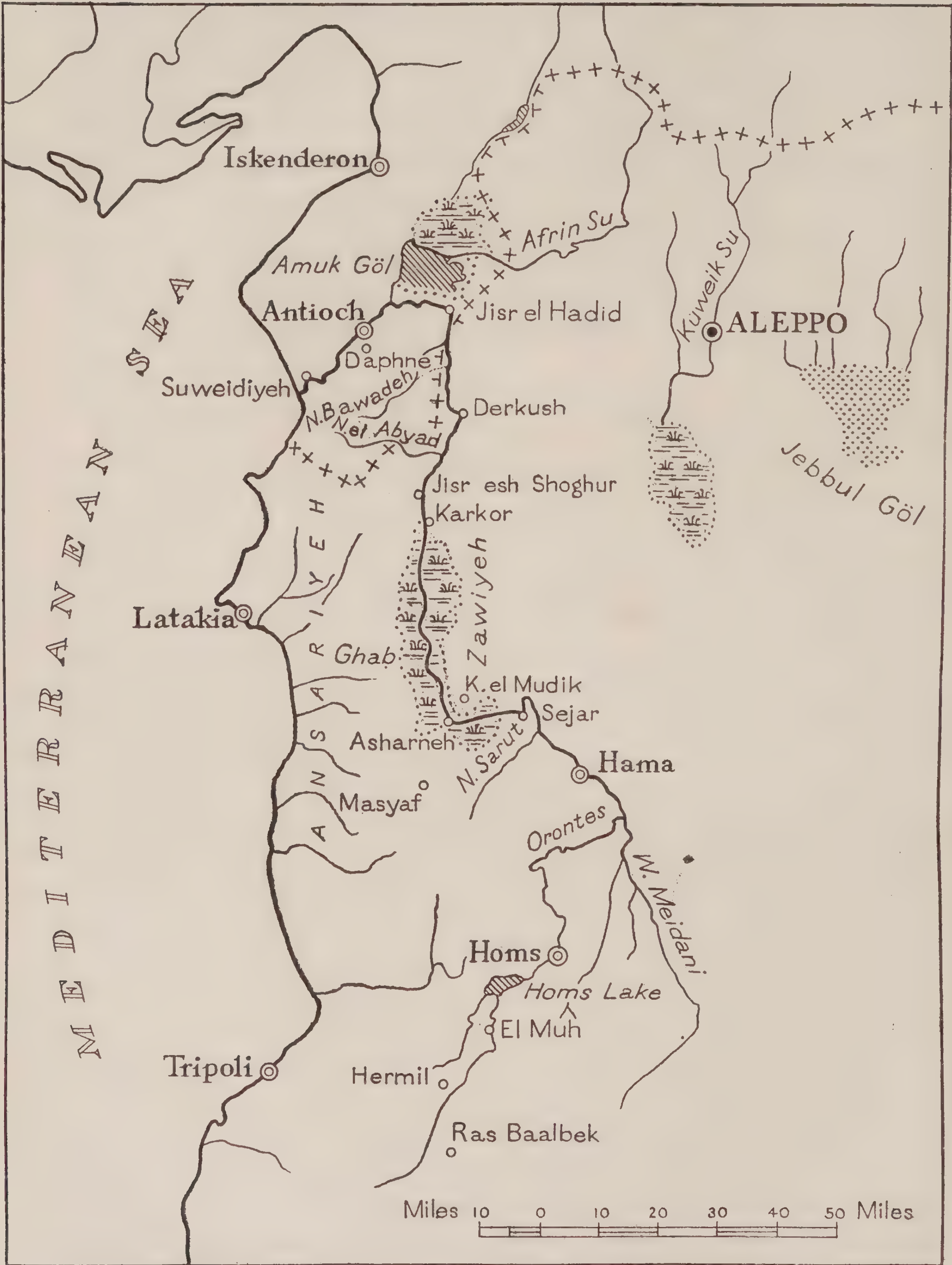


FIG. 15. *The Orontes basin*

steps of hard rock. Fig. 16 illustrates the discharge of the river from October 1930 to September 1931 inclusive; the stations of observation are shown in Fig. 15. Measurements are in cubic metres per second. The high discharge from January to March is caused by the rains falling on the bare mountain-sides, and running into the watercourses that are dry for the rest of the year. In other months the river is fed by numerous springs at the base of the limestone along the flanks of Lebanon and Anti-Lebanon. Throughout the year the flow is regulated by three reservoirs, Lake Homs, the Ghab marshes, and Lake Amuk with its marshes. The Orontes, at El Muh, 40 miles

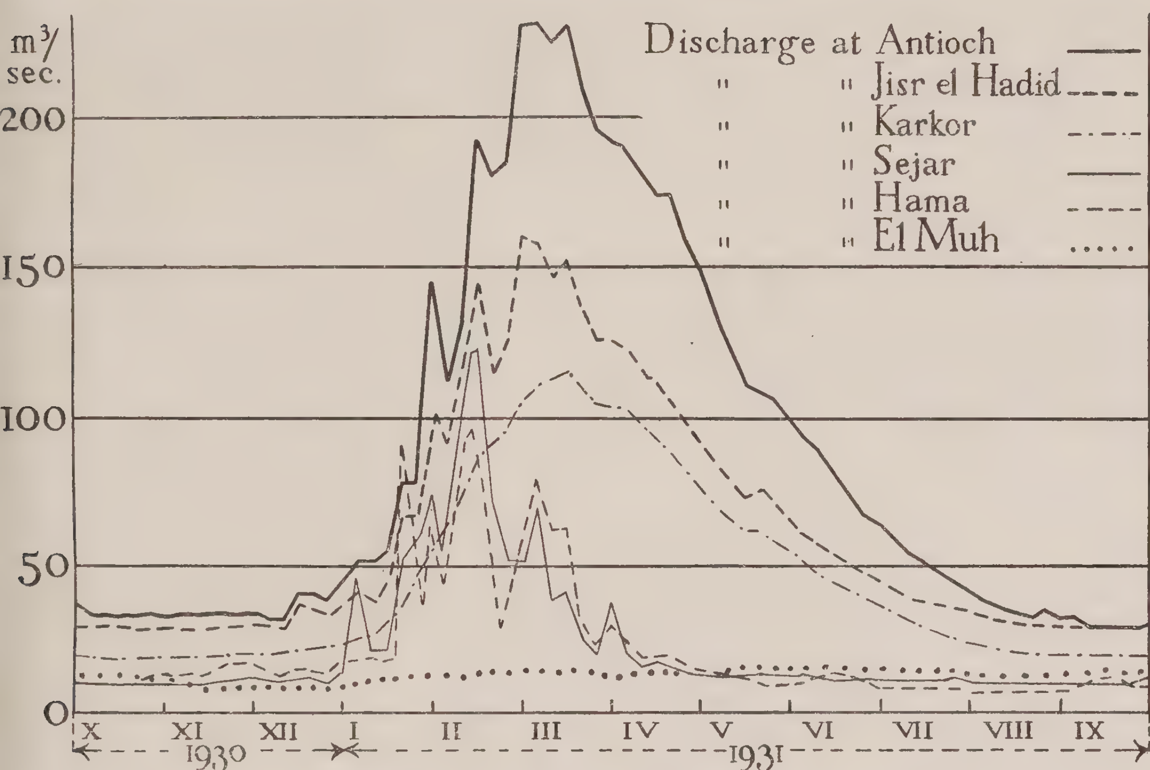


FIG. 16. *Monthly discharge of Orontes in 1930–1*

from the source, has a maximum flow of 15·8 m.³/sec. (560 c.f.s.) and a minimum of 10·3 m.³/sec. (360 c.f.s.). (Plates 11, 12, 14).

Between Lake Homs, the first regulator, and Hama numerous tributaries, the longest being the Wadi Meidani, flow in from the east: most of these are dry in summer. As a result of this the flood figure (95 m.³/sec.) is much higher than the low-water figure (11·0 m.³/sec.), which remains approximately the same as above Lake Homs. Still farther downstream tributaries from the east, and also on the left bank the Nahr Sarut, reach the Orontes, hence at Sejar the flood figure is again increased (120·0 m.³/sec.); but owing to the amount of water taken for irrigation below Hama, the minimum flow is lower

than at that town (10·0 m.^{3}/sec.). Below Sejar springs from a series of low hills between Hama and Masyaf, notably the Tell Ayun, contribute 5·5 m.^{3}/sec. to the river. In its course through the Ghab the Orontes receives several small tributaries which rise in the Ansariyeh and Zawiyeh mountains, and also from copious springs at Kalaat el Mudik and elsewhere. The marshes of the Ghab have a regulating effect on the flood waters, and as a consequence the heavy winter rains do not take effect downstream at Karkor before March.

Below Jisr esh Shoghur there are several springs in the bed of the Orontes, one of which at Hammam Sheikh Issa is thermal, and these add 9 m.^{3}/sec. to the flow. More important are two large tributaries, the Nahr el Abyad and the Nahr Bawadeh, which drain a wide area of mountainous country to the west and increase considerably the flow at Jisr el Hadid (maximum 161 m.^{3}/sec., minimum 30 m.^{3}/sec.). North of Antioch, below Lake Amuk, the third regulator which stores the waters of the Kara Su and the Afrin (3·0 m.^{3}/sec. and 2·8 m.^{3}/sec. at low water, 30 m.^{3}/sec. and 40 m.^{3}/sec. in flood), the flow increases to a maximum of 230 m.^{3}/sec. and a minimum of 35 m.^{3}/sec., which is again increased downstream by springs, the best known of which are at Daphne.

The Litani drains the southern Bekaa (Fig. 5). On the right bank it is fed by numerous springs which rise from the limestone at the base of Mount Lebanon. On the left bank the springs of Terbola, Fauar, Massaya, Shamsin, and Anjar unite to form the Nahr Gzaiel which enters the Litani north of Mansurah. Through the Bekaa the Litani falls very gradually, but when it reaches the barrier of Jebel Gharbi near Jubb Jennin it becomes a whirling torrent flowing through gorges which are cut down to a depth of 1,500 feet. Its bed here is narrow and tortuous. Between Yahmur and Jisr Burghuz the valley-sides are still from 100 to 1,000 feet high, but opposite Merj Ayun the valley is open and the river is fordable in summer. At Deir Serian the Litani turns west, the gorges are less frequent and smaller, and from Kefer Sir the river meanders across a plain to enter the sea about 6 miles north of Tyre.

Lake Yamuneh, the only lake of any size in Mount Lebanon, lies on the east side at an altitude of over 4,500 feet and 17 miles north-west of Baalbek (p. 18). The bed of the lake, which is a thousand yards long and 500 yards across, is full when the Ayun Urkush and other streams are in flood and when an intermittent spring starts to flow. By the beginning of summer these supplies diminish rapidly, and the lake disappears except for a few pools.



PLATE 32. *Upper tributaries of the Yarmuk*



PLATE 33. *Euphrates at Zelebiyeh, looking east*

PLATE 34. *Euphrates at Halibiyeh*

The lake has no obvious outlet, but recent experiments indicate that its waters feed the wells of Shelifat and Saïdet, on the west side of the Bekaa.

The area drained by the rivers of the depression is as follows (the asterisk denotes perennial streams):

	Sq. miles
*Orontes and tributaries	8,884
Meidani (a tributary of the Orontes)	1,239
*Afrin Su	1,150
*Kara Su	847
*Litani	857

3. *Rivers and Wells in the Northern Steppes*

From 10 to 20 inches of rain fall on the plateaux and hills in north Syria. There are two perennial rivers, the Kuweik Su and the Nahr el Dahab (Fig. 9). The Kuweik Su rises in the Kurd Dagh (*Turk.* Kurt Dağ) near Aintab (*Turk.* Gaziantep), flows in a southerly direction west of Aleppo, and empties itself to the south in the salt marshes of Möfti Göl. In the rainy season it has a strong current, and is about 20 yards broad 3 miles above its outlet into the Möfti Göl; in the dry period most of the water is used for irrigation purposes before it enters Syria. The Nahr el Dahab rises north-east of Bab and flows south into the salt flats of Jebbul Göl.

In these regions of inland drainage the people depend mainly on subterranean sources of water. Wells are commonest, but springs appear to be abundant. The Aleppo basin and two smaller basins south-west, Idlib and Er Ruj, are some of the better agricultural districts of Syria.

In the Aleppo region the underlying rock is chalk, and after the rains the surface chalk is dried and the water deeper in the chalk brought to the surface by capillary action. This in turn evaporates, and in doing so deposits salts in solution so as to form a hard crust, sometimes as much as 13 feet thick near Aleppo; underneath is 32–50 feet of fissured or solidified chalk; but deeper still, the chalk is intact and practically impermeable. Wells are dug in the surface chalk to collect the waters above the impermeable layer.

Idlib is surrounded on three sides by mountains, and on the east by rolling plateaux. The subterranean water here lies in small pockets on a thick bed of clay, and is found at depths varying from 10 to 150 feet. It is thought that artesian water may exist in the limestone beneath.

The area of the enclosed basins in the northern steppes is as follows:

	Sq. miles
Aleppo (Kuweik Su)	2,740
Idlib	56
Er Ruj	298

4. *The Oasis of Damascus*

The oasis of Damascus (Fig. 10) is another inland basin. It is watered by rivers which rise in the Anti-Lebanon and Hermon, principally the Barada and the Nahr el Awaj. The most important of these is the Barada, which, with its affluents from the south, reaches Damascus through a gorge in the eastern ridge of the Anti-Lebanon. Two copious springs, the Ain Hawar and the Ain el Funduk above the actual source of the Barada, are entirely used for irrigation. The river originates in a small lake from which it falls gently to Tekkiyeh and then bends east in a narrow chasm to Suk Wadi Barada. Below this the valley widens, and small irrigation canals have been constructed to supply the villages through which it passes. Farther down is the spring of Ain Fijeh, which yields the main supply to the Barada, contributing two-thirds of its waters. The drinking-water of Damascus town is carried by a tunnel from this spring. Below it the river flows through gorges, and, from the head of these, seven principal canals carry water to the city, and to the *Ghuta* or oasis surrounding it. The surplus water in the rainy season flows east to form the desert lake of Ateibeh. (*See* p. 253 and Fig. 49; Plate 114.)

The second river, the Awaj, is formed by the confluence of two affluents from Mount Hermon at Sasa. It flows north-eastwards for 6 miles, then east in a deep tortuous channel to Kiswe. Several canals which irrigate the southern parts of the Damascus oasis take off from it on either side of Kiswe. It then passes between Jebel Maani and Jebel Aswad, turns south-east, and in the rainy season the surplus water empties into Hijaneh, another salt lake about 10 miles south of Lake Ateibeh.

The area of the Damascus oasis and that of the rivers draining into it are as follows:

	Sq. miles
Damascus oasis	3,146
*Basin of the Barada	1,361
Basin of the Nahr el Awaj	1,785



Plate 35. *Khabur and Jezireh at Arban*



Plate 36. *Tigris at Pesh Khabur*



Plate 37. *River Jagh Jagh in spate*



Plate 38. *The Jagh Jagh and Tell Bizari*

5. *The Yarmuk Basin*

In the Hauran and Jebel Druse (Figs. 17, 18), both east and west, limestone beds are overlaid by volcanic strata. On the east side of Jebel Druse little rain falls, but there are numerous springs. On the west the rainfall, from 10 to 20 inches, is sufficiently heavy to enable crops to be raised, but the only perennial river in the area is the

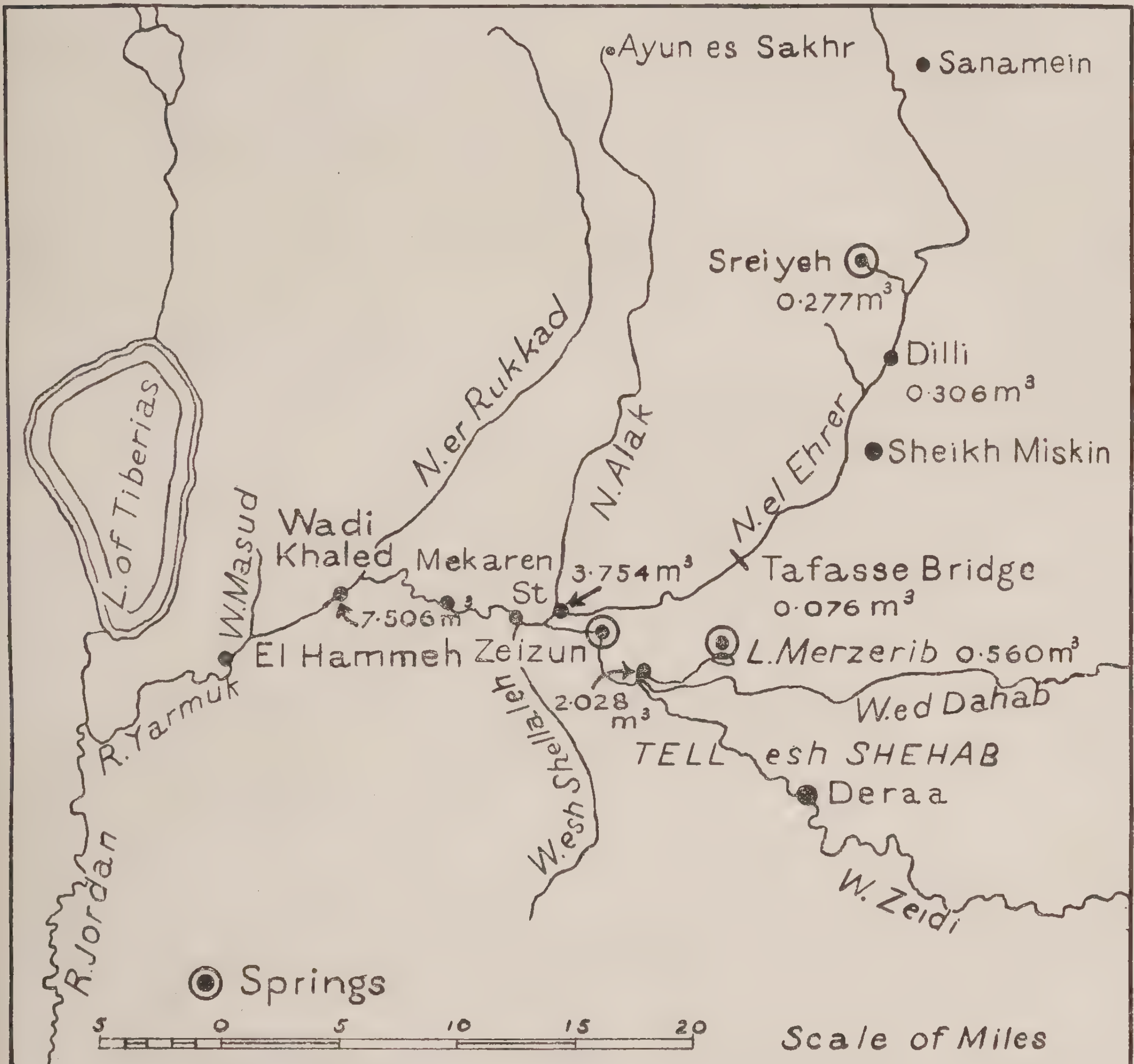


FIG. 17. *The Yarmuk basin*

Yarmuk, a tributary of the Jordan, which lies at the extreme south-west corner. In a few places where the basaltic cover has worn thin, small shallow pockets of water-bearing strata are reached by wells, but there is no large volume of underground water and the water-bearing strata are discontinuous. (Plate 31.)

The perennial waters in the Yarmuk come from springs which rise in the lower sections of two watercourses on the Syrian side of the Transjordan frontier; a third, the Wadi esh Shellaleh, joins these from

the south. The Yarmuk proper is the river which flows between the junction of these watercourses and the Jordan. The two principal watercourses on the Syrian side are the Nahr el Ehrer coming from the north and the Wadi Zeidi from the east. At their junction, near the railway station of Mekaren, the Yarmuk is 236 feet above sea-level. It falls to sea-level 5 miles above Wadi Khaled station, and at its confluence with the Jordan it is 835 feet below sea-level, having descended more than 1,000 feet in 25 miles. In this part of its course it receives water from the Nahr er Rukkad which rises at the foot of Hermon, from the short but perennial Wadi Masud, and from springs which rise on either side; it flows swiftly through a deep gorge with

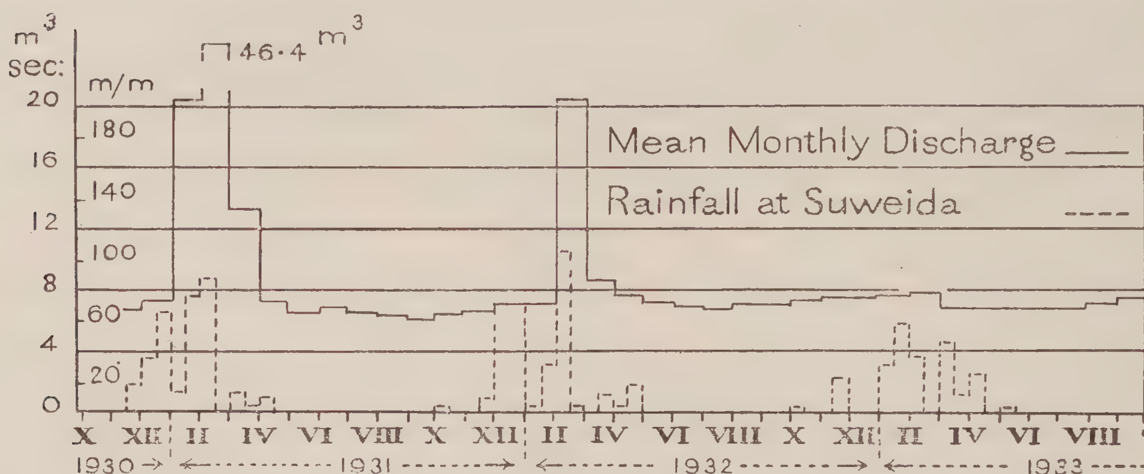


FIG. 18. *Discharge of the Yarmuk at Wadi Khaled and rainfall at Suweida*

numerous cascades. As it approaches the Jordan the limestone cliffs rise to over 1,000 feet.

The source of the Nahr el Ehrer is the perennial spring at Sreiyeh, with a flow of 0·2 m.³/sec. At Dilli the flow increases, but lower down three-quarters of the water is taken by irrigation. As the stream leaves the basalt and flows through chalk country the volume increases, because of the numerous springs which issue along the line of contact of the chalk and basalt.

The course of the Wadi Zeidi is similar. Its highest springs rise round Lake Mezerib; one has a flow of 0·6 m.³/sec., others falling into the stream as it flows to Tell esh Shehab increase the volume to 2·0 m.³/sec. Here the river enters a deep ravine and, like the Nahr el Ehrer, receives a number of streams issuing at the zone of contact of the chalk and basalt. Even in the dry season, when the basalt countries are normally short of water, the volume is 7·5 m.³/sec., subterranean water apparently converging on this region from most

of the Hauran and western Jebel Druse. The amount and regularity of this underground supply in the whole Yarmuk basin are clear from observations at Wadi Khaled in the dry season (Fig. 18). On the other hand, sudden and violent floods may be caused by the surface run-off in winter, showing that the basaltic country is not permeable, and that the catchment basin of the Yarmuk is large.

The area drained by the Yarmuk is 2,700 square miles.

6. *The Euphrates*

Some account of the Euphrates has already been given (p. 33). The



FIG. 19. *The Euphrates basin*

river and its principal affluents (Figs. 19, 20), the Sajur Su, the Balikh, and the Khabur with its tributary the Jagh Jagh, all rise beyond the frontier but gather more water from the rains (5–20 in.) which fall in the highlands of northern Syria. Unlike the rivers of western Syria, the Euphrates has a gentle gradient. The rainy season lasts generally from the beginning of December until the end of February, but the flood does not reach its maximum until 3 months later, April or May, and the river remains high about 2 to 3 months, partly because of melting snow far up its course; there is a similar delay between the minimum rainfall and low-water period. (Plates 33–38.)

Figure 20 shows the discharge of the Euphrates from 1930 to 1933 at Meskeneh: the level is fairly constant in the low-water period, when the volume of water discharged is about 200 m.³/sec., but varies quickly in flood-time, when the discharge may lie between 750 and 3,600 m.³/sec. There are no separate figures to show how much of this is derived from the Sajur Su which enters the Euphrates on the right bank above Meskeneh. At Rakka, 68 miles downstream of Meskeneh, the Balikh brings an estimated amount of 6 m.³/sec. at low water, and very much more in the flood period. Eight miles above

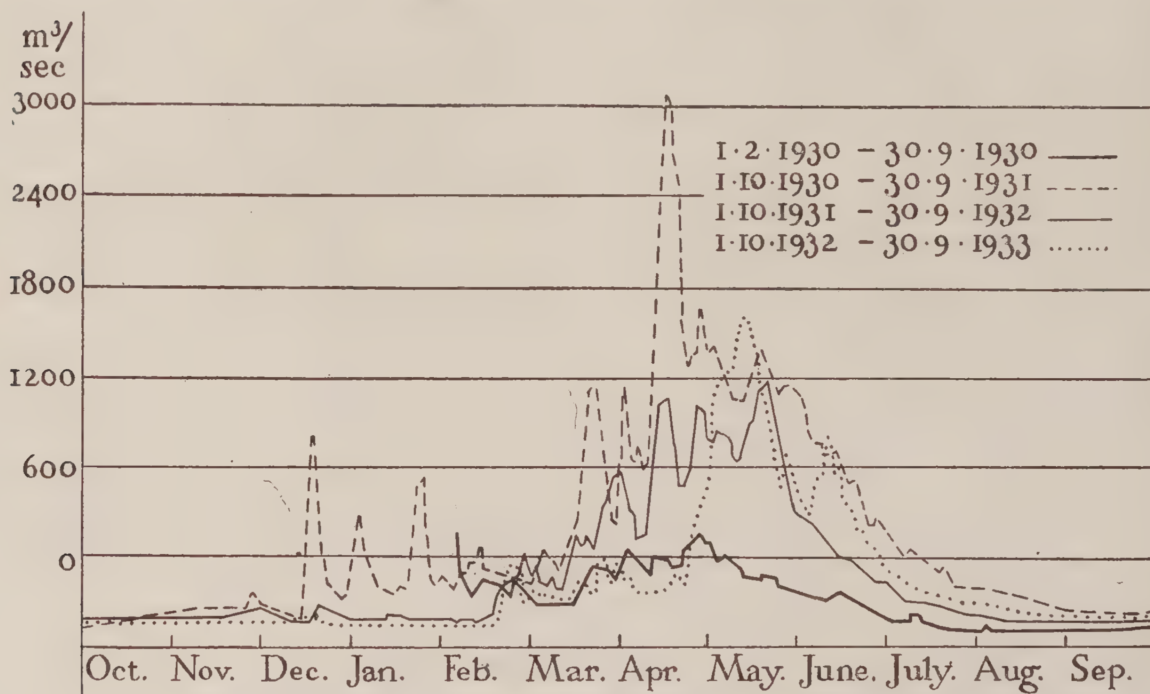


FIG. 20. *Discharge of the Euphrates at Meskeneh*

Meyadin the Khabur adds a greater volume of water to the Euphrates, although much is taken from it, and also from the Balikh, for irrigation. At Kamichlieh on the Syrian frontier the Jagh Jagh has a flow of 5·9 m.³/sec. at low water, but by the time it has reached Hassetche this is reduced to 1·9 m.³/sec. The headwaters of the Khabur rise in the mountains west of Mardin, but the principal spring is at Ras el Ain (*Turk.* Resülayn) on the frontier. Downstream at Suwar the flow of the Khabur is about 40 m.³/sec. at low water and 100–150 m.³/sec. in flood. Hence the discharge of the Euphrates between Meyadin and the Iraq frontier will probably be between 250 m.³/sec. at low water and 3,800 m.³/sec. in maximum flood; but the flood is very variable from year to year.

From Jerablus to Abu Kemal the Euphrates is navigable for craft of small draught. When the river is full it would be possible for a



PLATE 39. *Springs of Nahr Ibrahim at Afkeh*

PLATE 40. *Catchment area of Nahr Ibrahim near Akura*

Plate 41. *Bay of Minet el Beida looking north to Jebel Akra*



Plate 42. *Jebeleh village and harbour*

light-draught steamer to make the passage downstream, but the swiftness of the current would make the upward journey very slow: during the months of low water, i.e. August to November inclusive, steamer navigation is impossible. The local boat, the *shaktur*, is flat-bottomed and is usually only used on journeys downstream from Jerablus. In 1917 the Germans used motor-barges capable of carrying 10 tons, and with a draught of little more than 2 feet.

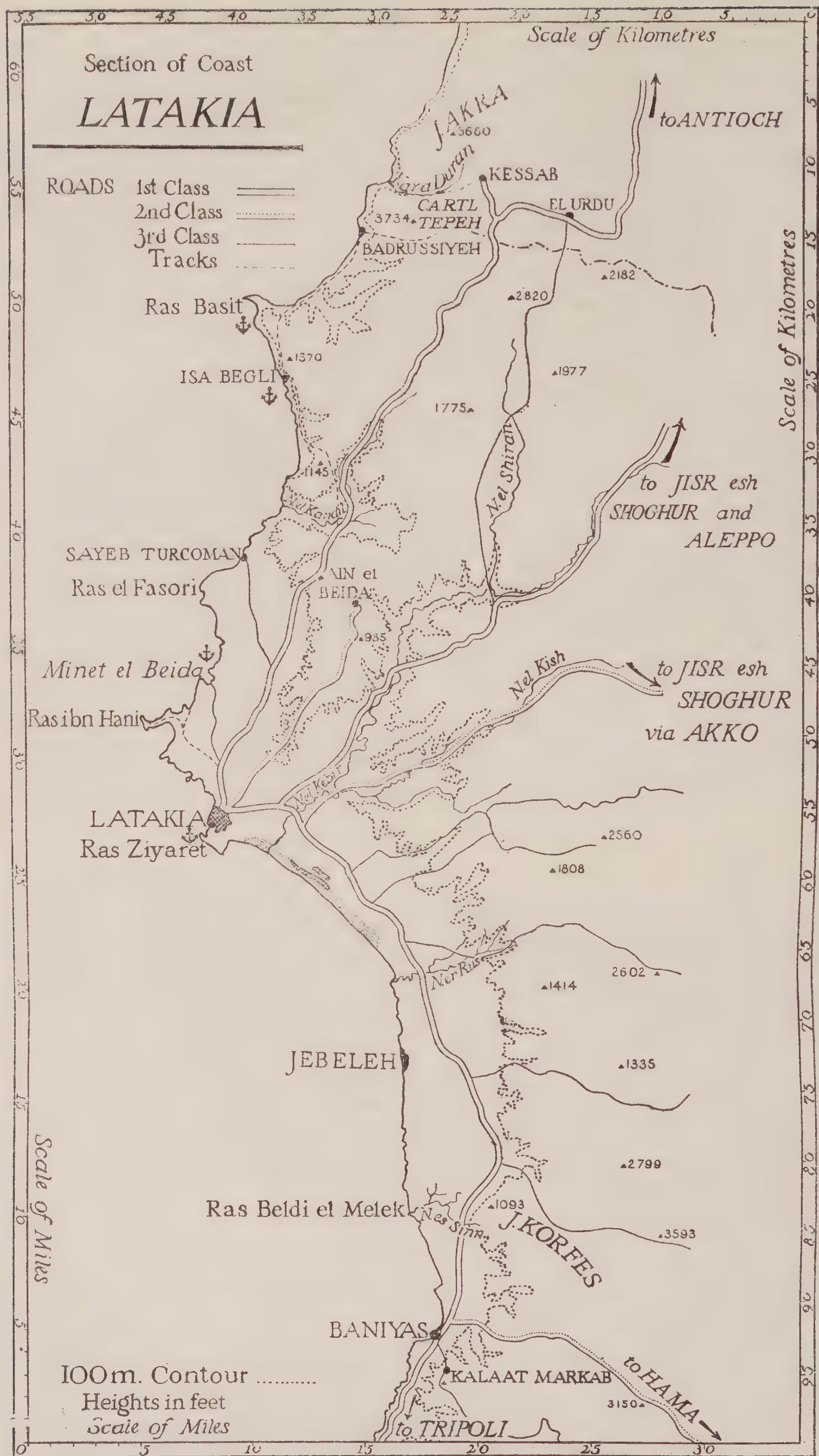


Fig. 21. *The coast from Kara Duran to Baniyas*

CHAPTER III

THE COAST

FROM Kara Duran on the northern frontier to Ras en Nakurah in the south the coast of Syria measures about 200 miles as the crow flies. In this short distance there are many varieties of shoreline from the cliffs and headlands north of Latakia, and the rugged coast between Tripoli and Beirut, to the sandy shore near Tyre, and the sand-dunes north of Jebeleh. A road follows the narrow coastal plain, which seldom entirely disappears, from Latakia to Ras en Nakurah (Route 1, below, p. 332). Between Beirut and Ras en Nakurah it is supplemented by a railway which is being continued to Tripoli. There is also railway connexion inland from Beirut to Damascus and from Tripoli to Homs and Aleppo. Communications inland at right angles to the coast are a problem owing to the barrier formed by the coastal mountains. There are only four main roads, although there are other good second-class roads, leading from the coast road inland to the great cities of the interior; each of these makes use of river valleys in its passage across the mountains. By far the most important route inland and the only natural gateway to the interior is formed by the gap between the two maritime ranges and is used by the main road and railway from Tripoli to Homs. There are only three ports of any size—Latakia, Tripoli, and Beirut—and anchorages or landings are mostly limited to a few fishing-havens. All these are described in detail in Chapter XIII. The coast will be described in four sections: (1) from Kara Duran to Latakia, (2) from Latakia to Tripoli, (3) from Tripoli to Beirut, and (4) from Beirut to Ras en Nakurah.

1. *Kara Duran to Latakia*

This section of the coast (Fig. 21) is irregular and exposed, with only off-shore anchorages. Its general trend is south-south-west, but it is broken by three promontories, Ras Basit, Ras el Fasori, and Ras ibn Hani. Between Kara Duran and Ras Basit the slopes of Cartl Tepeh (3,734 ft.) are cut off abruptly by coastal cliffs about 200 feet high, at the foot of which is Badrussiyeh, the only village of any size in this section of coast.

Ras Basit is a low-lying promontory, about 8 miles from Kara Duran, rising 2 miles inland to a flat-topped hill, 165 feet high. It

takes its name from and marks the site of the port of ancient Posidium, traces of whose mole may still be seen. Close to it is an anchorage protected from the prevailing winds by the promontory and used throughout the year.

Four miles south of Ras Basit is another anchorage, known as Isa Begli, where vessels used to call for chromate of iron before the war of 1914–18. Broken wooded hill-country, up to 1,400 feet high, lines the coast, which trends south-south-east almost to the



FIG. 22. *Ras el Fasori and coast northwards*

mouth of the Nahr el Kandil, the largest river in this section. From here onwards the hills recede from the coastline which bends towards the south-west, leaving a rapidly widening coastal plain, which ends seawards in low cliffs from 30 to 100 feet high above sandy beaches. Sayeb Turcoman is a small village on this coast, and beyond it Ras el Fasori (*class.* Pasieria), 13½ miles from Ras Basit, is a conspicuous cape which reaches a height of 292 feet about a mile inland (Fig. 22).

Four miles farther south, the little bay of Minet el Beida (Plate 41), half a mile wide, enclosing the long-forgotten port of Ugarit (p. 105), provides good shelter from the strong south-west winds, and a refuge for ships when Latakia is unsafe to use. Beyond it, the peninsula of Ras ibn Hani, half a mile wide, projects seawards for over a mile with a lighthouse on the point, and forms the northern shore of another bay immediately to the south, across the entrance of which is a rocky



PLATE 43. *Ruad island looking south-west*

PLATE 44. *Promontory and town of El Mina, the port of Tripoli*



PLATE 45. *Ras esh Shakkah and El Heri bay*



PLATE 46. *Mouth of Nahr el Kelb*

reef. From Ras ibn Hani to the promontory of Ras Ziyaret, on which stands the town of Latakia, almost the whole of the coast is sandy but strewn with rocks. Latakia faces north-west and the harbour and town are sheltered from the south by Ras Ziyaret, which rises to 230 feet (for further details of the port *see* p. 311).

It is almost impossible to land anywhere on this coast, except at Minet el Beida, owing to the cliffs and rocks. Most of the hills are alined parallel to the coast, but in the northern half, as far as Nahr el Kandil, they are cut off and fall steeply to the sea. Good communications leading directly inland from the coast are therefore not to be expected. Two main roads, to Antioch and Aleppo, lead inland from Latakia; the first keeps from 3 to 5 miles from the sea across the coastal lowland and then makes use of a tributary valley of the Nahr el Kandil; the second uses the alinement of the Nahr el Kebir and of a tributary on its way to Jisr esh Shoghur on the Orontes. A second-class road runs between these two 10 miles north-north-east to Ain el Beida. Another, south-east of all these, follows the Nahr el Kish and joins the main Aleppo road 39 miles from Latakia. Third-class roads connect Minet el Beida and Sayeb Turcoman across the coastal lowland with the Latakia–Antioch main road; but elsewhere there are only a very few tracks, passable only in the dry season, leading inland from the coast. One of these links Badrussiyeh in the north with Kessab, on a branch of the Antioch road.

2. *Latakia to Tripoli*

Latakia (Figs. 21, 23) is 75 miles due north of Tripoli in a straight line, but the coastline between the two ports is about 15 miles longer. In this section there are four old ports which are still used by small coastal craft and sailing-vessels: Jebeleh, Baniyas, Tartus, and the island of Ruad. Spurs of the Jebel Ansariyeh rise within a few miles from the coast, leaving only a narrow lowland plain, well watered by rivers—a few of them permanent—and by springs and wells fed by the rain on the hills. Orchards and gardens surround the small villages which cluster round the wells; most of them have less than 1,000 inhabitants; many other small villages are located on the hill slopes up the valleys. The two chief rivers are both known as Nahr el Kebir or 'great river'; the northern reaches the sea 2 miles south-east of Latakia, the southern (the ancient Eleutherus), 20 miles north-east of Tripoli. A road follows the coastal plain the whole way from Latakia to Tripoli; between Baniyas and Ras Hasan there is only

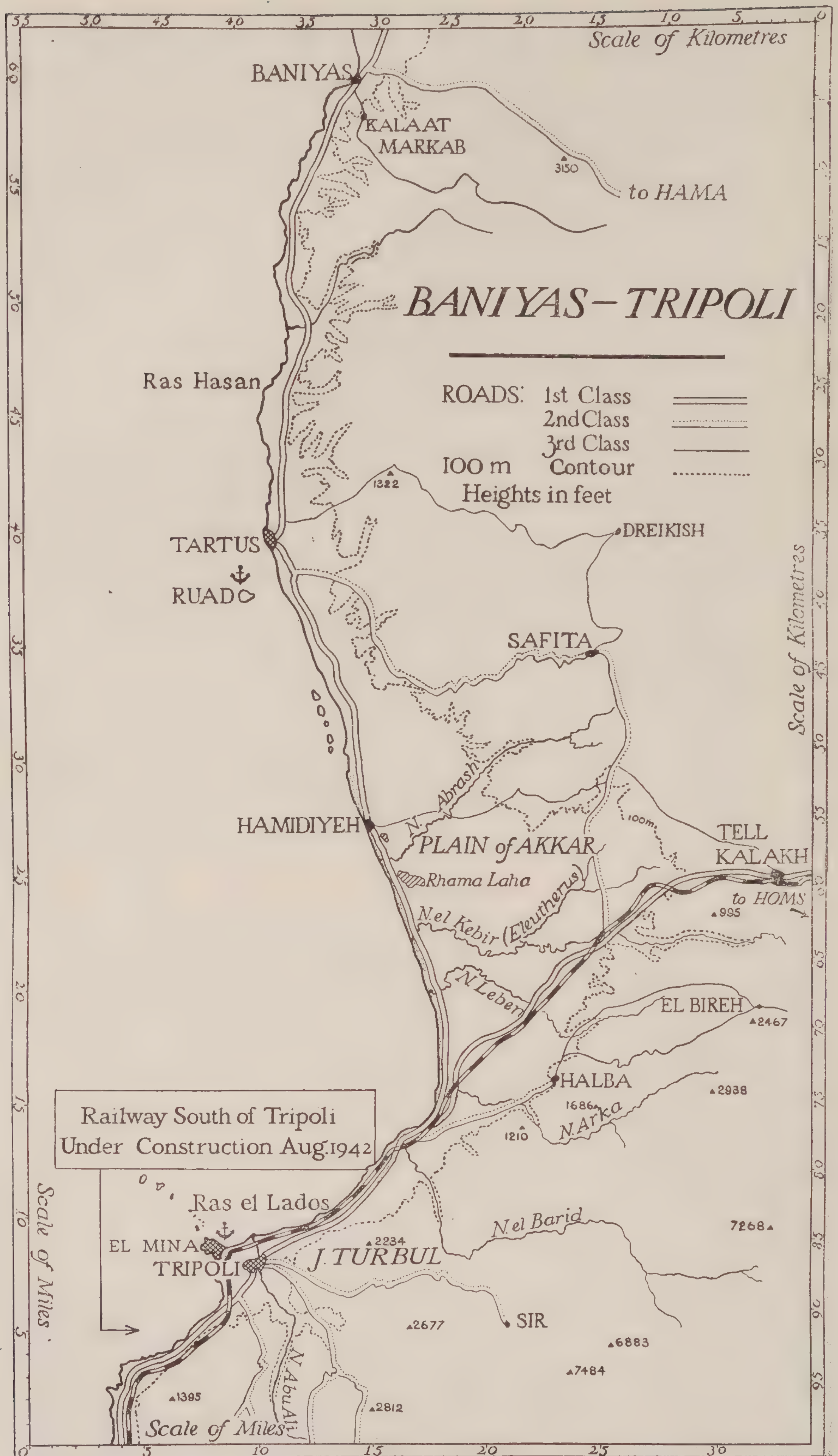


FIG. 23. *The coast from Baniyas to Tripoli*

just enough room for it, and from Tartus to Tripoli it follows the shore closely.

Immediately south of Latakia the promontory of Ras Ziyaret is cut off by cliffs, but these give way to a sandy foreshore before the mouth of the Nahr el Kebir is reached. From here a sandy beach, backed by dunes, extends south-east for over 6 miles almost to the mouth of the Nahr er Rus. The belt of dunes begins about 200 yards from the tideless shore and averages 500–600 yards in width. Behind the dunes there are lagoons and marsh for the first $3\frac{1}{2}$ miles. The coast road keeps to the drier ground inland of this belt, and the Aleppo road leaves it before it crosses the Nahr el Kebir. Beyond the Nahr er Rus the dunes are replaced by low cliffs, from 30 to 90 feet high, with off-lying rocks; these extend for over 9 miles past Jebeleh to Ras Beldi el Melek, the plain above the cliffs being about 4 miles wide for most of this stretch (Plate 42). Opposite Ras Beldi el Melek the hills begin to approach the sea, and Jebel Korfes, a limestone hill (1,093 ft.), from the foot of which the Nahr es Sinn issues as a considerable stream about 200 yards wide, narrows the plain to 2 miles or less. The Nahr es Sinn enters the sea at the Kurdish village of Arab el Meulk (*class.* Paltos). A long straight beach trending south-south-east stretches for 6 miles from Ras Beldi el Melek to Baniyas, where the coast road meets the shore and is closely backed by hills. A second-class road passes inland from Baniyas by Kadmus and Masyaf to Hama.

A mile and a half south of Baniyas is a volcanic outlier, 930 feet high, on which stands Kalaat Markab, the ruins of an old Crusaders' castle (Plate 71), beyond which there is a beach of fine shingle and sand with outlying rocks and shallow water as far as Tartus, 23 miles to the south. In the north, the coastal plain is rarely more than a mile wide, but beyond the rocky cape of Ras Hasan, 10 miles south of Markab, it widens, and at Tartus measures about 4 miles across. Half a mile north of Tartus a shallow rock-basin (El Mina) probably marks the ancient port; it is used by sponging-craft and other small boats.

Tartus is the port from which vessels cross to Ruad island, 2 miles away to the south-south-west, where the best shelter along the coast is available for vessels of less than 15-foot draught. The island is only 800 yards long by 500 yards wide, but rises to 80 feet in the middle, where stands a dismantled fort with smaller ones near the shores. It is the site of the Phoenician Arad (Plate 43). The anchorage is off the north-east shore and is sheltered from the prevailing wind. About a mile short of Tartus a third-class road climbs the hills inland to Dreikish, and less than 2 miles beyond Tartus a good second-class

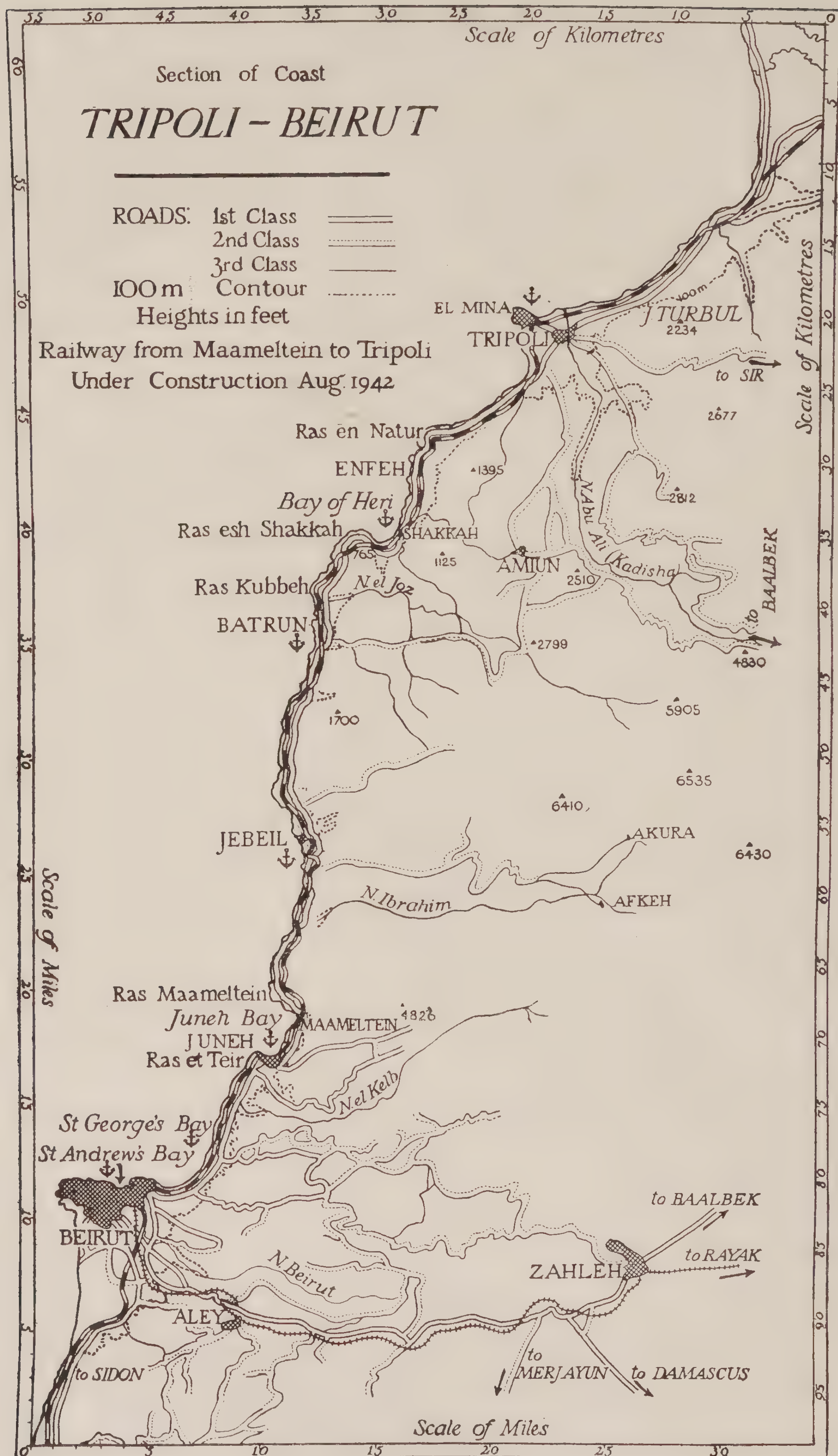


FIG. 24. *The coast from Tripoli to Beirut*

road goes inland to Safita. This village and Dreikish are connected by a second-class road with the main road and railway from Tripoli to Homs, which follow the valley of the Nahr el Kebir.

South from Tartus a sandy beach lines the unindented coast for more than 26 miles to the mouth of the little Arka stream, cut only by the southern Nahr el Kebir and several smaller streams, including the Abrash and Leben. The shore is sandy and flat, sand-dunes penetrating inland for more than half a mile. North of the Abrash is a lagoon; and a mile south of this river is a larger one, known as Rhama Laha, a mile and a half long from north-west to south-east, and three-quarters of a mile wide. The coast road runs immediately behind the dunes. From the mouth of the Arka the coastline curves south-west for 3 miles to the Nahr el Barid, where the Lebanon approaches the shore. From Tartus to the Nahr el Barid the Ansariyeh foothills recede to their farthest from the shore, leaving the widest tract of level lowland in western Syria. This is the rich plain of Akkar, and the only natural gateway—the gap between Jebel Ansariyeh and the Lebanon—to the interior of the country. Homs, at the inland end of the gap, which takes both a first-class road and a standard-gauge railway from Tripoli, is also the focus for routes northwards from the Bekaa, the Lebanon, and Anti-Lebanon, southwards from Aleppo, and eastwards from the desert and the Euphrates valley. The plain of Akkar, well watered, fertile, and highly cultivated, is flat except for a number of *tells*, the remains of ancient settlements, Roman, Frankish, and Arab. There are many villages, the largest with not more than 1,200 inhabitants, and all of them engaged in agriculture. Halba—the Albe of the Crusaders—is in the south.

From the Barid river the coast runs south-west for a further 4 miles to the rocky bluff of Ras el Lados, 120 feet high, the end of a spur of the isolated Jebel Turbul. From here it curves west-south-west for 4 miles past the mouth of the Nahr Abu Ali to the low rocky point of El Mina, the port of Tripoli, from which a line of reefs and rocky islets projects north-westwards out to sea for nearly 4 miles. The town of Tripoli stands about a mile inland on both banks of the Abu Ali stream (p. 305). Jebel Turbul, 2,234 feet, rises steeply above it on the east; foothills of the Lebanon, clothed in olive-groves, slope upwards more gently on the south-east and south (Plate 44).

3. *Tripoli to Beirut*

The section between Tripoli and Beirut (Fig. 24), nearly 50 miles long, is the grandest on the Syrian coast. The high peaks of the

Lebanon, rising between 9,000 and 10,000 feet, covered with snow for many months in the year, are in full view about 20 miles away, and great spurs run down from them to the edge of the sea. The coastal plain is almost non-existent, especially between Ras esh Shakkah and Beirut, and the beaches with off-lying rocks would make landings dangerous except at the small ports of Shakkah, Batrun, and Jebeil which lie far from the two main roads across the Lebanon from Tripoli and Beirut. There are many villages on the hill-slopes up each valley, which, by the natural beauty of their surroundings, attract visitors from Egypt and elsewhere for the summer months. Four perennial rivers reach the sea: the Joz, the Ibrahim (*class.* Adonis), the Kelb—or the 'Dog' river, above which a dozen conquerors, from the days of the Pharaohs to those of the French, have carved their inscriptions—and the Beirut river. A busy little anchorage lies just north of Ras esh Shakkah; south of it are the old ports of Batrun and Jebeil; north of Beirut, the fine anchorages of Juneh bay and St. George's bay. The coast road in this section was not easy to construct, and because of the steep slopes rising immediately from the coast it follows the shore all the way. Communications with the interior are still more difficult; two good but winding second-class roads lead from Tripoli to Bsharreh with a continuation across the Lebanon by Ainata to Baalbek; another from Beirut to Damascus, constructed about 1869 to link up the villages of the Bekaa and the interior with the coast, is now a first-class road; and there is a network of good-surfaced roads leading from Beirut to summer stations in the hills, but no farther. A metre-gauge railway runs north from Beirut to Maameltein; a metre-gauge railway from Beirut to Damascus runs parallel to the road across the Lebanon. A standard-gauge railway is being built along the coast from Beirut to Tripoli.

From El Mina, the port of Tripoli, a sandy beach bordered by rocks runs south-west for over 7 miles to the low promontory of Ras en Natur (75 ft.); a mile farther south is the little town of Enfeh, built behind and slightly to the south of a rocky cape, and one of the fortunate places where fresh-water springs rise near the coast. South of Enfeh, in the semicircular bay of El Heri, 4 miles wide, is a small harbour at which coasting-vessels call for cement from the new works at Shakkah. There is good anchorage in the south part of the bay off Ras esh Shakkah, which projects as a massive promontory 765 feet high and falls precipitously into the sea; the coastal road pierces it by two tunnels (Plate 45).

From Ras Kubbeh, 2 miles farther south-south-west, the coast



Plate 47. *Tabarja inlet*

Plate 48. *Coastal plain at Jebeil, ancient Byblus*

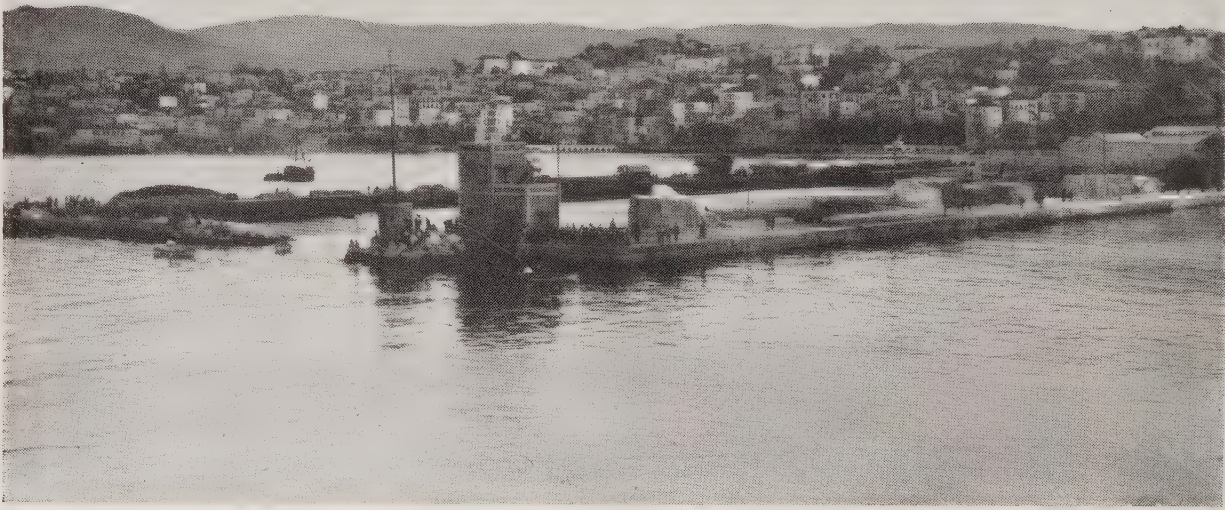


PLATE 49. *Beirut from the sea*



PLATE 50. *Ras Beirut*

bends southwards with a succession of sandy bays between rocky capes, the ends of spurs of the Lebanon cut off by the sea. The first of these, immediately south of Ras Kubbeh, is formed at the mouth of the Nahr el Joz with the town of Batrun and its little port less than a mile to the south; vessels can anchor off the town. Jebeil, another ancient port, lies 13 miles south of Batrun, at the base of a Lebanon spur (Plate 48); and 4 miles farther on, the mouth of the perennial Ibrahim river, which rises among the high ridges of the Lebanon near Akura and Afkeh, comes down to the sea between two great ridges.



FIG. 25. *Beirut from the west*

The country behind Ras Maameltein, 3 miles farther south, rises abruptly to 1,160 feet, and then to nearly 5,000 feet. Just north of the promontory is the cove of Tabarja (Plate 47) and south of it the low coastline, backed by mountains, sweeps round the bay of Juneh to the low shingly promontory of Ras et Teir. Maameltein, the terminus of the metre-gauge railway, is at the north end of the bay; Juneh, a small town of 5,000 inhabitants, at the south end, is the centre of market-gardening and orchards supplying Beirut. Many people with business in the capital have their homes at Juneh where living is cheaper, and travel daily into the city by rail; the roadstead is only used by local fishing-vessels of under 100 tons. The mouth of the Nahr el Kelb is 2 miles south-south-west (Plate 46); beyond it, the sandy bay of St. George, a winter anchorage for warships, stretches

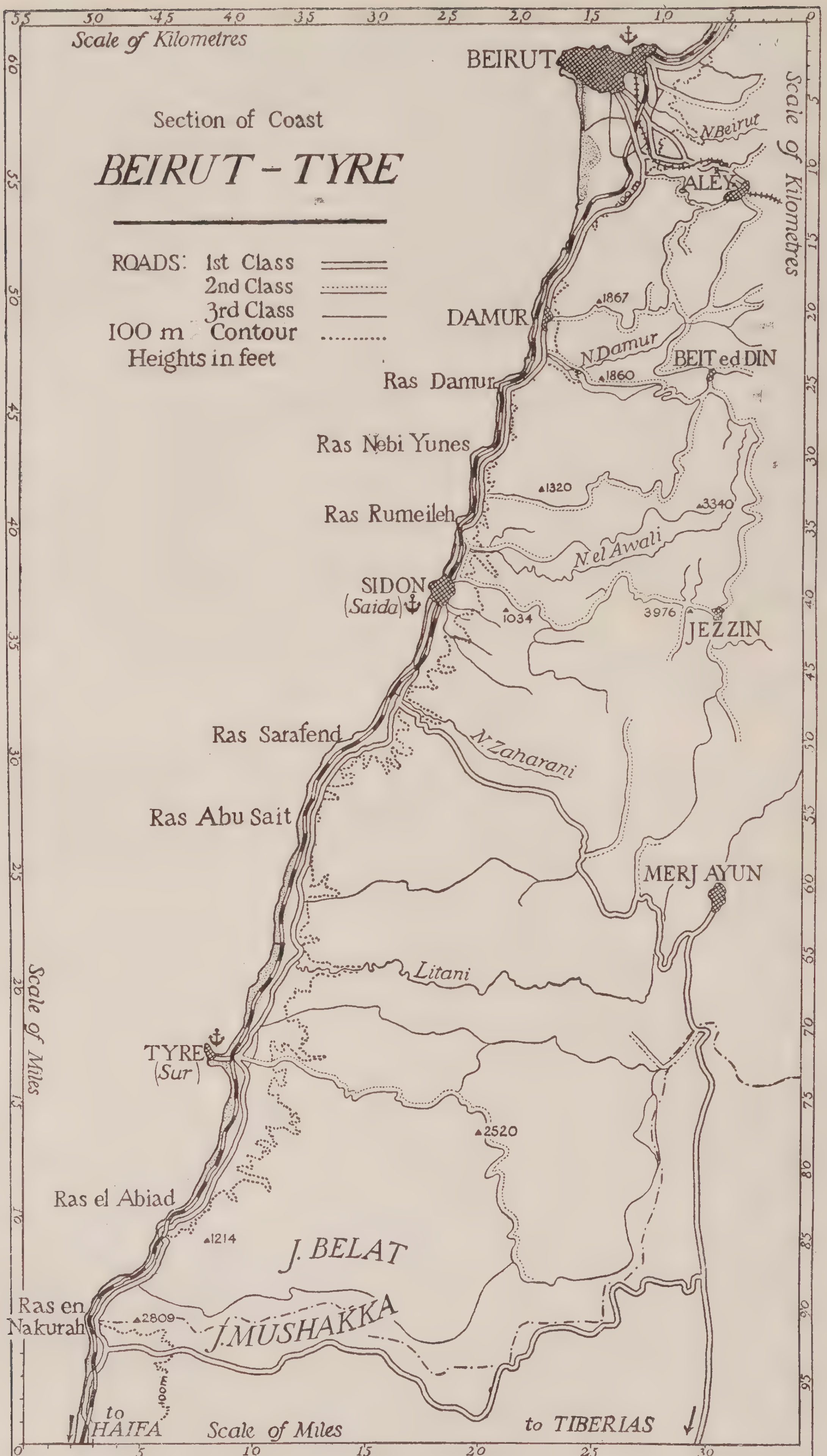


FIG. 26. *The coast from Beirut to Ras en Nakurah*

5 miles south-west to the mouth of the Beirut river, which is on the north side of the massive promontory (312 ft.) that ends in Ras Beirut (Plates 49, 50). St. Andrew's bay and Beirut town lie between the mouth of this river and the cape (Fig. 25; for port see p. 298).

4. *Beirut to Ras en Nakurah*

The coast between Beirut and Ras en Nakurah (Fig. 26) is less spectacular than that between Tripoli and Beirut. It trends fairly regularly south-south-west and is about 60 miles long. In the background are the southern ranges of the Lebanon which decrease in height as they near Palestine; behind the lower hills to the south rises Mount Hermon. The coastal plain is never less than 2 miles wide and often wider and is very fertile. The Litani or Kasimiyeh is the largest of several rivers. There are small harbours at Sidon and Tyre (*see* pp. 322–24). The Lebanon here is well supplied with a network of good-surfaced second-class roads leading from the coast road up to the summer stations and mountain villages. Several of these together with paths and motorable tracks lead over the mountains to the Bekaa, but are impassable during the winter months because of snow. Farther south between Sidon and Damur local roads lead up into the lower hills, which are strewn with villages, and a first-class road, which branches off the coast road along the valley of the Zaharani, leads across the Lebanon to Merj Ayun. There is a standard-gauge railway from Beirut to Ras en Nakurah. The country is packed with historical associations: Sidon (now known locally as Saida) stood on a low promontory 25 miles south of Beirut; Tyre (modern Sur) 22 miles farther south on a peninsula which was once an island; Sarepta (Sarafend), famous for a miracle and for the manufacture of glass, lies between them; Ras Nebi Yunes, north of Sidon, is the place where the natives assert that Jonah was thrown up by the whale.

On the level shore between Beirut and Sidon long sandy beaches alternate with rocky points, and behind them are rich plantations of olives extending to the foothills which rise rapidly from the plain. The first of the rocky points is the low rounded cape of Ras Damur rising to 265 feet, which lies south of the village and river of Damur; it is about 13 miles from Beirut. For 2 miles south of the cape there is a sandy beach to Ras Nebi Yunes, a second rocky cape 195 feet high. Ras Rumeileh (70 ft.) rises half-way between Ras Nebi Yunes and Sidon: between the two capes the coast is rocky and barren, and villages are fewer and farther inland. The mouth of the Awali

provides water for Sidon which, with over 11,000 inhabitants, stands on the south-west slope of a rocky promontory, and has a small protected harbour (Plate 51). South of Sidon the shore is flat and sandy with occasional rocks, but behind it is a fertile plain irrigated from the Awali and backed by low hills, 400–500 feet high, and the lower ridges of the Lebanon. A sandy bay stretches south-west for 9 miles from Sidon to the double-headed bluff of Ras Sarafend, 3 miles beyond which the coast rises again to Ras Abu Sait; and 4 miles south of Ras Abu Sait, the Litani, the largest river in southern Syria, reaches the sea; it is barred by a sandbank in summer. 5½ miles south of the Litani is Tyre, now a fishing village (Plate 52); between Tyre and the frontier the shore is level and sandy, and the only outstanding features are Ras el Abiad, a bold white cliff which is the termination of the Belat range (2,552 ft.) and Ras en Nakurah, 5½ miles farther south, which is the termination of Jebel el Mushakka. Between these two capes the coastal plain is narrow. The cape is 261 feet high and falls steeply to the plain of Acre; inland it rises gradually to a round-topped hill (1,070 ft.; Plate 54).

In the campaign of the Allies in June 1941 a landing was effected north of the Litani mouth with the object of taking the French defences along the river from the rear. No other landings were made or attempted. The French line of resistance was at first along the Litani, after the loss of which their main positions were further north along the Damur (*see* Appendix E, p. 420).



PLATE 51. *Sidon*



PLATE 52. *Tyre*

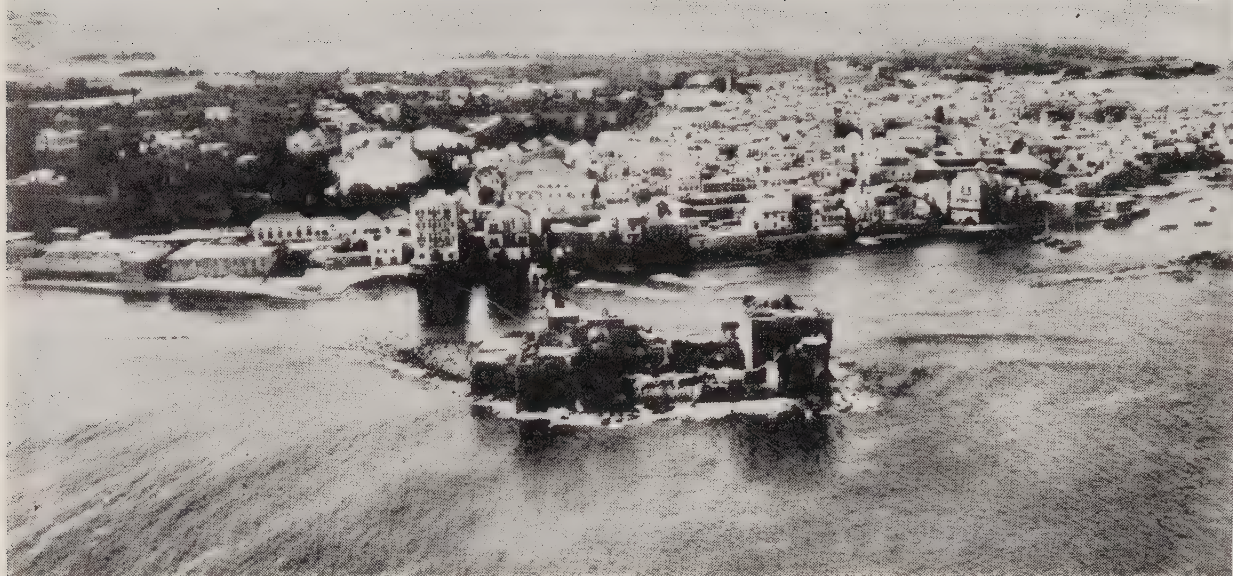


PLATE 53. *Sidon town and harbour entrance*

PLATE 54. *Ras en Nakurah*

CHAPTER IV

CLIMATE AND VEGETATION

A. CLIMATE

WESTERN SYRIA, by reason of its position, has a climate with characteristic Mediterranean features, namely, warm, moist winters and hot, arid summers; the interior is, however, screened by

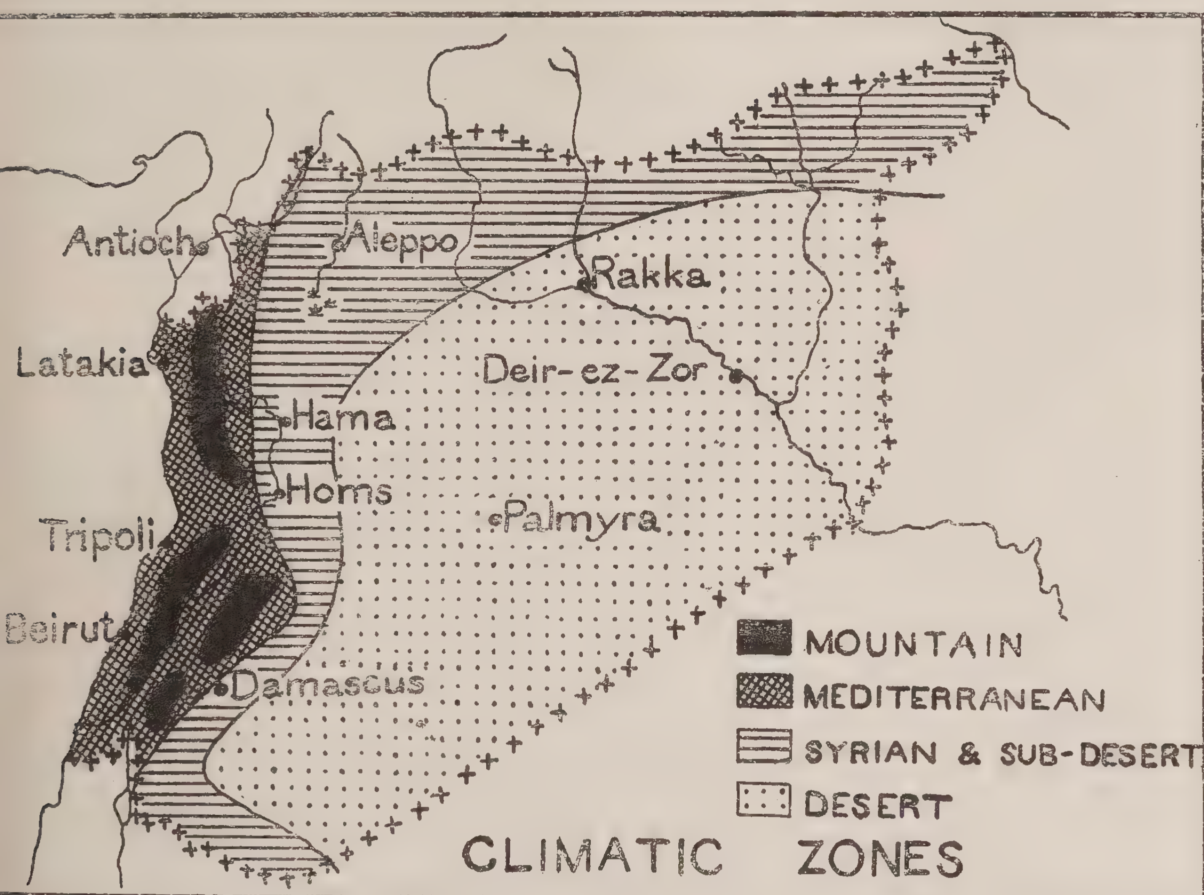


FIG. 27. *The climatic zones of Syria*

mountains from the moderating maritime influence, except where this can pass inland by two gaps in the ranges: the Nahr el Kebir (Eleutherus) depression, and that formed by the low hills of Galilee and the Huleh depression. To the east the inland region, open to the Arabian desert on the south, has a 'continental' or extreme climate, similar in some respects to that of the Sahara, particularly on the borders of Iraq, where there is a great range of temperature, and absolute aridity for six months. A transitional type of climate, the

'Syrian' or 'sub-desert' type, is found in the Hauran and western Jebel Druse, and in the western steppe-land (Fig. 27).

The climate of Syria is therefore a good example of the degradation from the Mediterranean type to that of a continental desert, and may be described in four divisions: (*a*) the Mediterranean or coastal zone, (*b*) the mountain zone, (*c*) the Syrian 'sub-desert' zone, and (*d*) the desert interior.

The principal meteorological stations in Syria and neighbouring countries whose records have been used in this chapter are given below. Tables appear in Appendix B, p. 398.

Station	*Altitude (ft.)*	*Number of years of records*
Coast		
Alexandretta[1]	..	10–11
Beirut	121	37–62
Haifa[2]	33	19
Mountains		
El Kareya	3,330	10
Jezzin	2,625	2
Central Depression		
Homs	1,624	2–10
Ksara	3,030	7–11
Steppe and Desert		
Aleppo	1,312	5–9
Selemiyeh	..	2
Damascus	2,264	6–11
Palmyra	1,329	5–8
Deir ez Zor	640	5–10
Urfa[3]	1,870	7

[1] Now no longer in Syria, but useful for conditions in the north.
[2] In Palestine.
[3] In Turkey.

Pressure

In winter the eastern Mediterranean is a region of relatively low pressure (Fig. 28) across which a succession of depressions pass from west to east, each accompanied by a cyclonic wind circulation. It is flanked on the north by the high-pressure system of Eurasia, which extends to the Balkan peninsula and Turkey. On the south there is a high-pressure system over north Africa. As summer approaches the Mediterranean centre of low pressure gradually moves eastwards to the Persian Gulf, which then becomes a region of intense low



FIG. 28. *Winter pressure*



FIG. 29. *Summer pressure*

pressure (Fig. 29). Within the Mediterranean the pressure is highest at the western end, but the gradient between the two ends is slight. Summer pressure conditions are very stable and the passage of depressions at this season very rare.

WINDS

(*a*) *Surface Winds*

In winter the depressions mentioned above control the winds (Table I) over the sea and along the coast of Syria; in summer the low-pressure system in Persia and at the head of the Persian Gulf is the dominating factor.

On the coast SW. winds prevail all the year, but they are most frequent in summer, when they blow on an average of one day in two. Other winds are rare, except in autumn, when NE. winds occur one day in four during October. Calm days are common throughout the year and average one day in four or five.

In the coastal mountains, and in the Ghab and Bekaa beyond, the predominating winds are W., but in spring and autumn NW. and SW. winds may also occur. El Kareya, near Dahr el Beidar, is exceptional with prevailing E. winds in January.

In eastern Syria, N., NE., and E. winds are commonest in winter; NW. winds are occasional. In summer the winds are almost constantly from N. and W.

Wind-speeds and gales. Wind-speeds in winter increase generally to the north, depending on the depth and proximity of the depression controlling them. Between the passage of depressions the weather is generally fair and the winds light or moderate.

Gales occur along the whole coast, but more than twice as frequently in the north as in the south, and blow more often from N. and E. than from S. and W. Along the coast in the north, about 6 gales (force 8 or more) from all directions occur in a year, compared with 2 along the Palestine coast. The highest recorded wind-speed at Beirut is 33 knots, but higher velocities are probable over the sea and during NE. gales over the north Syrian coast.

These NE. gales are caused by winds from the Anatolian mountains which bring remarkably low temperatures. They often rise suddenly and may last for two or three days. There are also short-lived gales and squalls, which, though violent along limited lengths of coast, do not extend far out to sea. Such are the *raghiehs* which occur southwards from the gulf of Alexandretta. Off-shore gales at the

mouths of the Orontes and Nahr el Kebir do not, however, raise much sea near the coast.

South-westerly gales are usually less sudden, and more often preceded by south winds which increase in strength as a depression approaches from the west. They also last for two or three days and raise heavy seas, while an unpleasant swell may reach places sheltered from the actual gale.

(*b*) *Local Winds*

(i) *Land- and sea-breezes* are notable on the Syrian coast, and occur throughout the year, the sea-breeze in summer being particularly welcome for its moderating effect on the temperature. At this season sea-breezes dominate the wind distribution near the coast and are no indication of the wind direction over the open sea or farther inland.

These breezes follow the normal course, the sea-breeze usually setting in about 10.00 hours, and occasionally as early as 06.00 hours, increasing until noon or early afternoon, and dying down to calm at sunset. The land-breeze ordinarily rises about 20.00 hours or later and lasts until sunrise. The sea-breeze therefore reinforces the prevailing SW. winds of the open coast, while the land-breeze opposes them, so that its effect may be merely to produce a night calm or even to weaken the prevailing wind. Minor variations occur in bays and gulfs, and by reason of local topography.

These breezes are strongest at the hottest time of the year, usually July and August, but are noticeable in May and prominent until the end of September. They are only perceptible in the winter when not obscured by stronger influences. They rarely penetrate more than 20 miles inland or the same distance out to sea.

The effect of the sea-breeze on temperature and humidity along the coast is very marked. Excessive temperatures on summer afternoons are reduced, absolute humidity is raised, and the diurnal range of relative humidity is lessened. At night the parched land receives a refreshing dew.

(ii) *The scirocco*, or as it is often called the *simoon*, is a hot, dry SE. and E. wind originating in the Arabian desert, especially frequent from April to May or early June, and from September to November inclusive. In many places the highest temperature of the year frequently occurs in spring or autumn, sometimes even as early as March or as late as October, as a direct result of the scirocco.

This wind blows in front of the depressions, already mentioned, as they pass eastwards across the south-east corner of the Mediter-

ranean to Haifa and thence north-eastwards through eastern Syria. The first indications of the scirocco are a fall in atmospheric pressure as the depression approaches, a rapid decrease in humidity at night as the dry air begins to arrive from the south, and the appearance of high, light cirrus cloud. The air, cool at first, later becomes excessively hot, oppressive, and dry, often with rapid fluctuations of relative humidity. As the wind becomes stronger—occasionally reaching gale force—violent dust-storms may occur, sometimes reducing visibility to less than 50 yards. The wind then veers abruptly to the north-west, there is a rapid fall in temperature, and an increase of relative humidity. At the same time the dust generally clears, although the wind may remain strong. The high cloud (cirrus) decreases, and is replaced by broken cumulus; the weather becomes fresher, sometimes with light showers.

It is often stated that the scirocco begins shortly after sunrise, is strongest in the early afternoon, and ceases towards the evening. This is not an invariable rule, but there is a distinct diurnal variation of wind-velocity, the maximum being in the early afternoon. Scirocco winds do not usually last for more than a day in February, but as the season advances the duration of individual spells increases to three or four days. Longer spells are uncommon.

The effects of the scirocco at the height of the season are very marked. A wind-speed of 54 knots has been recorded; relative humidity may fall to less than 30 per cent.; temperatures may rise to 102° F. on the coast, and even higher inland, where they may remain about 80° throughout the night. The fall of temperature at the end of a scirocco spell has been as much as 30° F. in 2 hours, and the humidity has risen from below 30 to 88 per cent. in the same period. Certain electric phenomena, caused by the excessive dryness, sometimes occur during the scirocco. The wind usually extends up to 2,000 or 3,000 feet, and sometimes to 5,000 feet. The early rains of winter are often preceded by a long spell of scirocco, the wind then gradually veering to the west.

Strong and very dry, dusty E. winds occur at times during the winter, as well as during early spring and late autumn. These winter winds are, however, bitterly cold and are known as 'cold sciroccos'. The term connotes dust and dryness, not temperature or wind-direction. The winds occur with almost cloudless skies, and are coldest when the direction is a few degrees north of east.

(iii) *Föhn winds.* These warm, dry, descending winds are found in the Lebanon and Anti-Lebanon mountains, where they may raise

the temperature on the east side as much as 20° F., and also along the Turkish frontier, especially in the east near Kamichlieh, the mean temperature near the Tigris valley being raised nearly 2° F. above the normal for the latitude from this cause.

(iv) *Mountain and valley winds.* Mountain winds are also only found in the coastal mountains and along the northern frontier. They are caused by the drainage of cold, heavy air down the valleys from the frosty or snow-covered mountain-tops in winter. Conversely, during the day, warm 'valley winds' blow up the mountain-sides. These winds are unimportant and very local.

(v) *Sand winds and dust-storms.* (*a*) *Sand haze* accompanies the scirocco, which blows in spring and autumn, and in Syria brings sand a great distance from the east and south-east. It first appears high in the sky, but it gradually descends and covers everything with a yellow coat; if followed by rain at the end of a depression, this coat turns to muddy patches. In Syria neither vertical nor surface visibility is much affected by the haze.

(*b*) *Sand whirls or dust-devils* are familiar features of the steppes and deserts of Syria during the summer, and, to a less degree, of coastal districts fringed by sand-dunes. Usually originating over slight inequalities of the ground, they may occur singly or in a series. From the middle of a whirl of sand near the ground a columnar 'devil' rapidly ascends, to thin out above in a diffuse cloud of dust, the base of the column contracting at the same time; sometimes the columns may rise straight from the ground. They drift with the prevailing light wind, and rotate in either direction. They reach a fairly uniform height of 600 to 700 feet, and are often only about 70 feet in diameter, but they are surrounded by a zone where the wind is strong and may be violent. Sometimes a series of such dust-devils, starting in the morning and lasting till nightfall, and generally rising from the same spot, may occur every day for as much as a month.

(*c*) *Sand- or dust-storms* are found on the edge, and especially in front, of storms, both in the rainy and in the dry season; occasionally they occur with no apparent connexion with general atmospheric conditions. Before the storm the air is abnormally calm, warm, and even oppressive; the horizon is banded by a yellow bar which gradually broadens as the sand-storm approaches, and then becomes an opaque wall, high in the sky, normally up to 4,000 feet, sometimes more than 7,000 feet. First there are a few puffs of burning hot air, then a short period of calm: the wall is close at hand. Lastly the wind rises very suddenly, blows furiously, and grains of sand penetrate everywhere.

The wind lasts for several hours after the centre of the storm has passed. When the wind drops it leaves a yellow haze.

TEMPERATURE

Syria has a hot summer and a mild winter. Temperatures (Tables 2, 3, 4; Figs. 30–1) increase from west to east, and to a much less extent from north to south, though this generalization is modified by

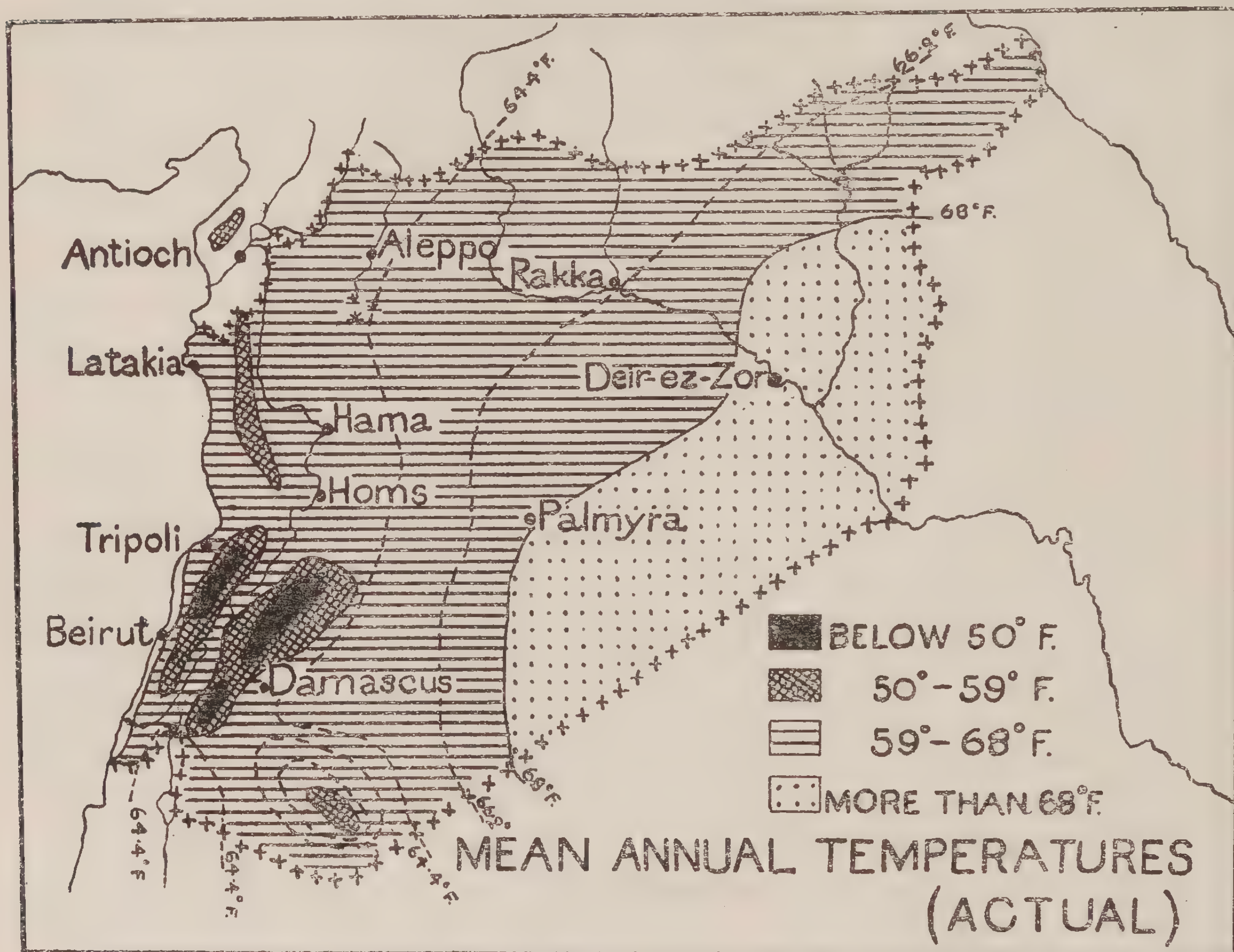


FIG. 30. *Mean annual temperatures*

effects of relief. Annual range of temperature, or the difference between the hottest and coldest month, also increases eastwards with the lessening of the moderating influence of the sea. In eastern Syria this temperature range is very marked because the cold of winter is increased by winds from the snow-covered Kurdish Taurus and the Persian mountains.

Mean annual and mean monthly temperatures are not good guides to the heat and cold likely to be experienced. Mean monthly maxima and minima serve the purpose better, and, unless conditions are exceptional, temperatures usually fall within these limits in each

month; absolute maxima and minima give the two extremes that have been recorded.

In winter (December to February) coastal stations differ very little from each other (Alexandretta 51°, Beirut 58°, Haifa 58°), and from month to month (Beirut, Dec. 60·5, Jan. 57·0, Feb. 58·0). It is rarely

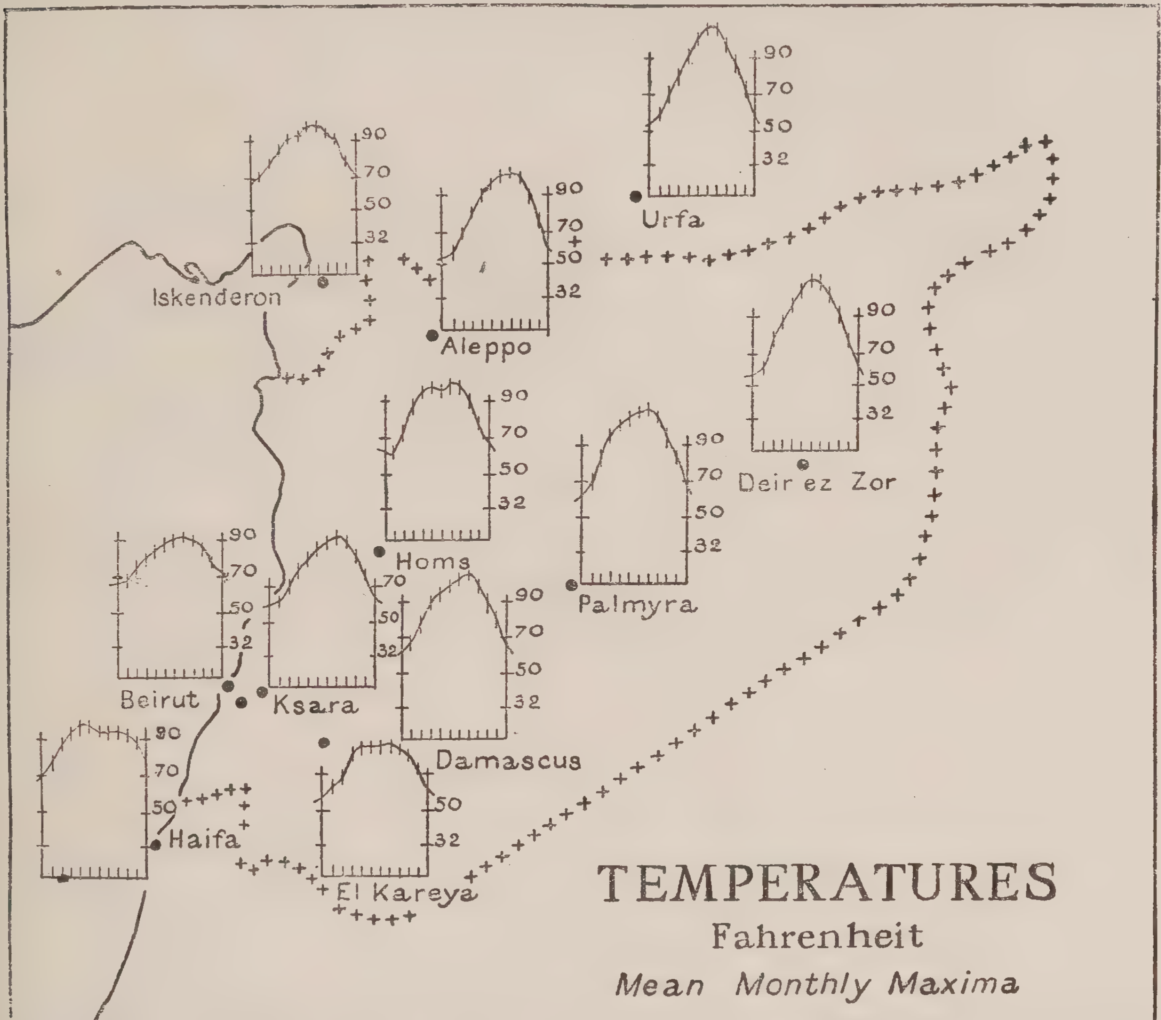


FIG. 31. *Mean monthly maximum temperatures*

very cold and the normal extremes are 69° and 46°, although 30° F. has been recorded in December at Beirut. In the Lebanon the mean winter temperature is about 45°, but it varies more from place to place, and the January mean mimimum at El Kareya is 27°. In the steppe and desert to the east, means are much the same, but much greater ranges of temperature are found (Palmyra, mean Dec.–Feb. 46·7 °; average extremes 69° and 26° in Feb.). Frost is not unusual: Damascus has recorded a temperature of 21° F., Palmyra 18° F., Deir ez Zor 16° F., and Aleppo as little as 9° F.

In spring (March to May) mean temperatures on the coast begin to rise rapidly, but are very variable and irregular. Relapses to winter

cold are not unusual, and March is sometimes as cold as February; on the other hand, the highest temperature of the year may occur during the spring and even in March, with the scirocco. The hottest spells of the year occur with southerly winds in any month between March and October. At Beirut between 1876 and 1910 the annual maximum occurred once in March, three times in April, six times in May and June, only once in July, ten times in August, four times in September, and five times in October. Mountain stations in the Lebanon show the same features as the coast (Ksara, mean extremes: March 72·5° and 31°, May 91° and 41·5°). Inland the hot weather comes on more quickly (Deir ez Zor, means: March 52°, April 66°, May 76·5°).

In summer (June to August) the temperature everywhere climbs steadily; although the annual maximum may occur in any month from March to October, August has the highest mean temperature. The mean temperature at Beirut rises from 78° in June to 83° in August, though during the day the thermometer often records more than 100° F. Mountain stations of the Lebanon are similar except that altitude lowers their temperature; but farther east great heat is experienced (Palmyra, mean monthly maximum: June 106°, Aug. 110°; absolute maximum, July 120°). Stations in the Euphrates valley are rather cooler than those in the open desert.

Autumn (September to November) is very warm, and the contrast with the freshness of spring is marked, especially on the coast and in the mountains. September is rather hotter than June, and in the south the highest temperatures of the year may occur in this month (e.g. at El Kareya and Jezzin). October is a more variable month, usually slightly cooler than June (Beirut, mean maximum: June 90·5°, Oct. 89·0°), but sometimes warmer. The same is true in the mountains, but the desert cools more rapidly, and the fall in mean maximum temperature from August to October is often 15° or 20° (Damascus, Aug. 105°, Oct. 89°). Throughout the country the temperature falls rapidly from October to December.

Diurnal range of temperature increases inland. At Beirut it is greatest (14°) in summer and least (12°) in winter. In early and middle summer sea-breezes reduce the range, but when they fall off in August the range is again increased. A typical summer day with a fresh sea-breeze may be summed up as follows. The temperature rises rapidly till about 10.00 hours, when the sea-breeze sets in. It then remains fairly uniform or rises much more slowly until about 17.00 or 18.00 hours, when it begins to fall quickly. If the sea-breeze

is delayed in the morning the temperature continues to rise, but falls again, exceptionally as much as 20°, when the breeze eventually sets in. There are other oscillations of temperature at some stations, amounting to 3° or 4°, caused by variations of the sea-breeze. Beyond the effect of the sea, in the mountains and particularly in the desert, the daily range is very great, and even in midsummer the night temperatures may fall to below 60° when the day temperatures reach 100° (Damascus, August: mean maximum 105°, absolute minimum 55°).

Sea Temperatures

The sea is coldest in February (61–63° F.), when the mean atmospheric temperature of the Syrian coast is about 57°. The sea temperature rises in May to between 66° and 68°, but not uniformly, and it is then slightly cooler than the mean atmospheric temperature (72° F.); throughout the summer the mean temperature lags about 10 to 15 days behind that of the neighbouring coast. In autumn there is a gradual decrease in sea temperature from about 79° to 70°, and in November it is slightly above that of the neighbouring air. Actual sea temperatures are, however, variable from place to place and from day to day, according to the direction of the wind.

Humidity

Relative humidity (Tables 5, 6) also varies greatly from place to place and from time to time. In general, however, it decreases with the distance from the coast, where it is high because of the influence of the sea, and increases from a minimum in summer to a maximum in winter, inversely with the change in temperature. Along the coast, however, and in certain mountain districts, the effect of sea-breezes in summer is great enough to maintain an almost constant relative humidity throughout the year, and occasionally to raise the summer mean above that of the winter; but even at Ksara, only 25 miles from the sea, there is a noticeable diminution in summer. The high coastal humidity in summer, combined with the fairly high temperatures, is much more trying to bear than the greater, but drier, heat of the interior.

These general remarks may be amplified by a few examples and exceptions. Along the coast relative humidity remains fairly constant and high, varying from 74 per cent. in the late spring to 66 per cent. in October, except in the north, where the range is greater and

extremes occur in other months (Alexandretta, Feb. 58 per cent., Aug. 75 per cent.). In the mountains also it remains fairly high all the year round, with limits of 57 per cent. in the late spring and 74 per cent. in midwinter. In eastern Syria the range is very noticeable: from between 30 and 50 per cent. in summer to between 80 and 85 per cent. in winter; and even lower summer figures than these are experienced in the Euphrates and desert areas (Deir ez Zor, 29 per cent. in July).

There is considerable diurnal variation of relative humidity because of the change in temperature, and, on the coast, because of the alternation of land- and sea-breezes. The maximum is in the early morning and the minimum between 12.00 and 14.00 hours. This diurnal variation may be as much as 10 per cent. in winter and 20 per cent. in summer.

It should be understood that the above generalizations are from the mean observations, and these do not show the large and irregular changes to which humidity is subject. In Syria, humidity depends very greatly on wind direction: as already stated (p. 74) the scirocco is always dry; in winter the W. and SW. winds are moisture-laden, though in early summer they are moderately dry.

Visibility and Cloud

Fog and Mist

Care must be exercised in interpreting the figures in Table 7, since they depend upon the observer's estimate of what constitutes a fog.

Out at sea mist and fog are extremely local. Mist is rare in winter and commonest from April to August. Fogs are limited to the early morning and only occur about once in a hundred days. Mists are also most frequent in the morning, especially on the coast, but they occasionally last all day. Visibility may be reduced by mist or haze along the coastal belt during late spring and summer, when light airs move from hotter to cooler water.

Occasionally a thick morning fog occurs on the coast, but a total of only 19 such fogs in 25 years has been recorded off Beirut, that is, less than one a year. During this period fogs were recorded once each in December and January, and twice in June, but never between July and November and never in February. They are therefore exceptionally rare save in spring. Mists, on the other hand, are quite common in the morning along the coast, leaving the mountains

behind bathed in sunshine. Such mists are soon dissipated, and they are generally gone by 10.00 hours, except in May, when relative humidity is highest along the coast, causing the mists to persist longer and occasionally to last the whole day.

In the mountain regions fogs are commoner than along the coast, though never frequent. They are features of the valley bottoms, where cold air collects, and they often do not clear until midday (Table 7). In eastern Syria both mist and fog are very rare.

Dust-haze and Sand-storms

When the scirocco blows there is often a dust-haze which limits visibility slightly at the surface, though the air at 1,000 feet may be quite clear. Visibility alters according to the strength of the storm and the amount of sand carried by the wind; the obstruction may vary from a dust-haze to a severe sand-storm with visibility limited to a few yards (p. 75), but the latter type is mostly confined to the steppe and desert of eastern Syria.

Mirage

Mirage is found in the desert and coast districts of Syria; it is not a feature of the mountains nor of the Ghab nor Bekaa. It occurs when there are large horizontal or vertical differences of temperature. Effects such as elevation of the horizon, looming, and superior mirage appear when, close to the surface, the air density decreases at an abnormal rate with increase of height. This condition often occurs over the sea with light, hot winds blowing off shore, the surface layer being cooled by the sea, while the air above remains hot. In stronger winds the vertical mixing due to turbulence prevents these effects. This type of mirage is found along the coast of Syria and gives the impression of exceptional visibility, since objects are seen which lie beyond the normal horizon.

The converse depression of the horizon and inferior mirage results when the decrease of air density with increase of height close to the surface is abnormally small. This condition occurs over the Syrian desert principally, but also over shoals, shallow coastal waters, and flat coasts where the air in immediate contact with the surface is liable to be heated to much higher temperatures than the air above it. The effect of this is that such objects as can be seen appear with exceptional clearness. Errors in fixing positions, due either to elevation or depression of the horizon, may be as much as 10 miles.

Cloud

Syria, like the East in general, is a land of sun and light. The mean amount of cloud (Tables 8, 9) for the year over the whole of Syria amounts to 3·2 tenths, even less than that at Nice on the south coast of France, which has 4·5 tenths.

The coastlands have most cloud in January and February, when the mean is about 5·4 tenths, the amount increasing from south to north. The minimum occurs generally in July, when the average is less than 2 tenths. Clouds are sometimes formed in summer over high ground along the coasts, when a sea wind persists at night; they deposit heavy dew, and become very thick for a few hours in the early morning as the dew evaporates.

The Lebanon has a slightly greater mean annual amount of cloud than the coast. Here, also, the maximum occurs in January and February. After the minimum in July, the cloudiness increases, especially between October and November, when the rains begin.

In the desert in winter the amount rises to 5 tenths in January. This is greater than one might expect, considering the small amount of rainfall; it is caused by sea air, which, having discharged its moisture on the mountains in the west, forms cumulus cloud in the interior, wherever local conditions of relief and temperature permit, although the clouds bring very little rain. In the summer there are almost no clouds to be seen, and frequent periods of a fortnight or more with cloudless skies. If the few relief clouds on hill-tops be ignored, whole months may be counted as cloudless. At Palmyra the mean for August is 0·6, at Deir ez Zor 0·2. Towards the north the amount of cloud increases owing to the influence of the Turkish mountains. The main impression of this region of eastern Syria is one of intense light, which would be even more pronounced if it were not for the yellowish dust-haze which at times obscures the sky.

Precipitation

Rainfall

Rainfall (Tables 10, 11; Figs. 32, 33) is the most important climatic factor in Syria, as in all other eastern countries, for it regulates the life of man, beast, and plant. Where there is water there is vegetation, and where there is plant-life there is man; where water is scarce or absent there is steppe or desert, with consequent nomadism.

Throughout the country almost all the rain falls in the winter

months; but the dates of the beginning and end of the rainy season vary considerably, and rainfall varies not only from month to month, but also very much from year to year. No figures or diagrams, therefore, can give more than a statement of what has happened, and a very general idea of what may be expected.

On the coast at Beirut the rainy season begins early in October

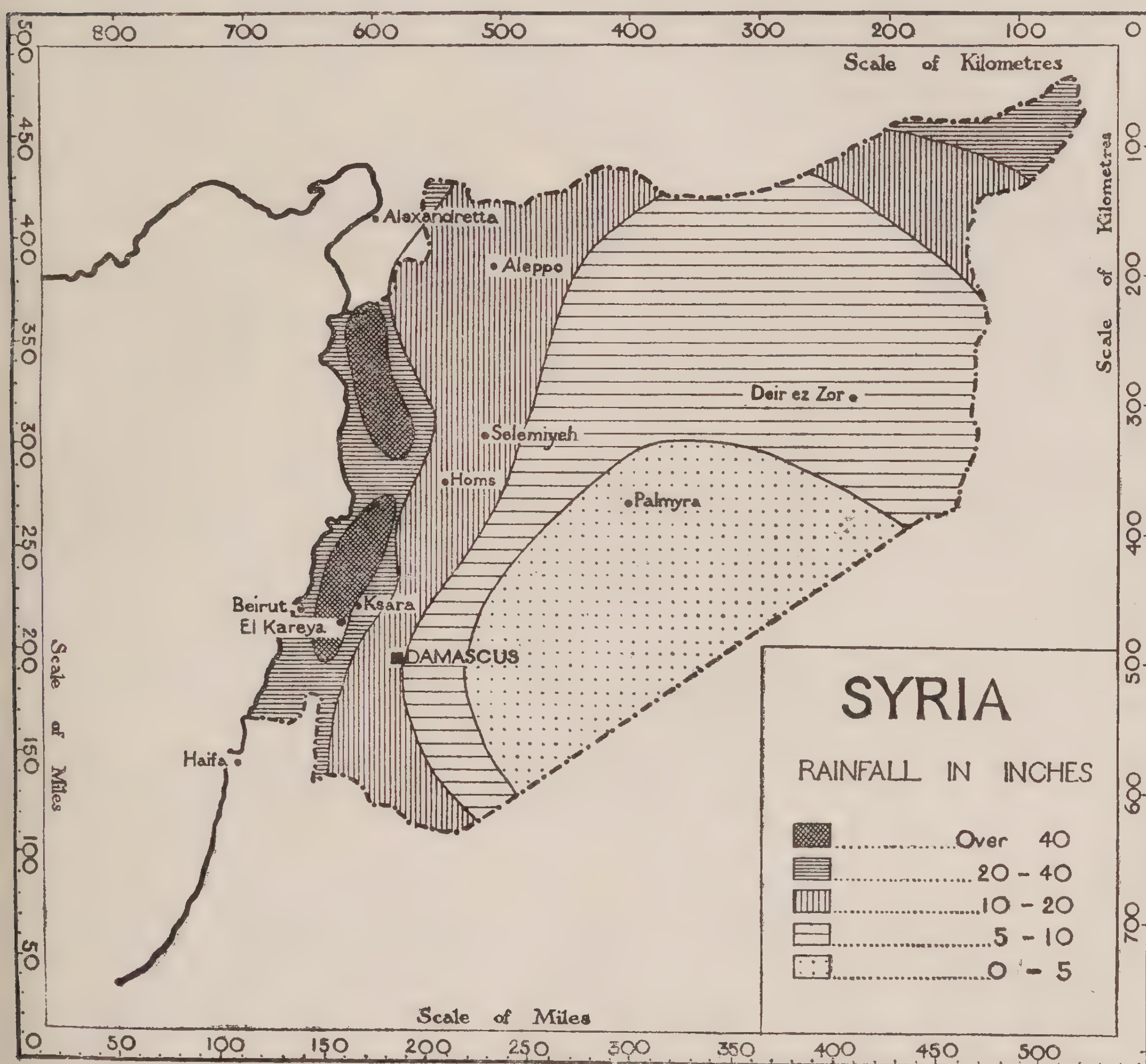


FIG. 32. *Annual distribution of rainfall*

and lasts into the second half of May. There is a tendency for the rains to start earlier and to last longer in the north than in the south, and in the west than in the east. But, as in the Mediterranean generally, neither in Syria nor in Palestine does rain fall steadily on several days in succession, except occasionally. Most of it comes in sharp showers, and short spells of stormy or thundery weather alternate with fine periods.

Rainfall distribution is markedly affected by relief (Fig. 32). The coastal stations, Latakia (34·7 in.), Tartus (31·1 in.), and Beirut

(35·5 in.), all have less rain than El Kareya (56·5 in.) and Jezzin (50·6 in.) in the mountains, though there are only a few more rain-days[1] in the mountains than on the coast (Beirut 78 days, El Kareya 84 days). This is a significant witness that the storms are heavier in the mountains, which force the air-currents to rise and part with their moisture, than on the coast. Beyond the mountains

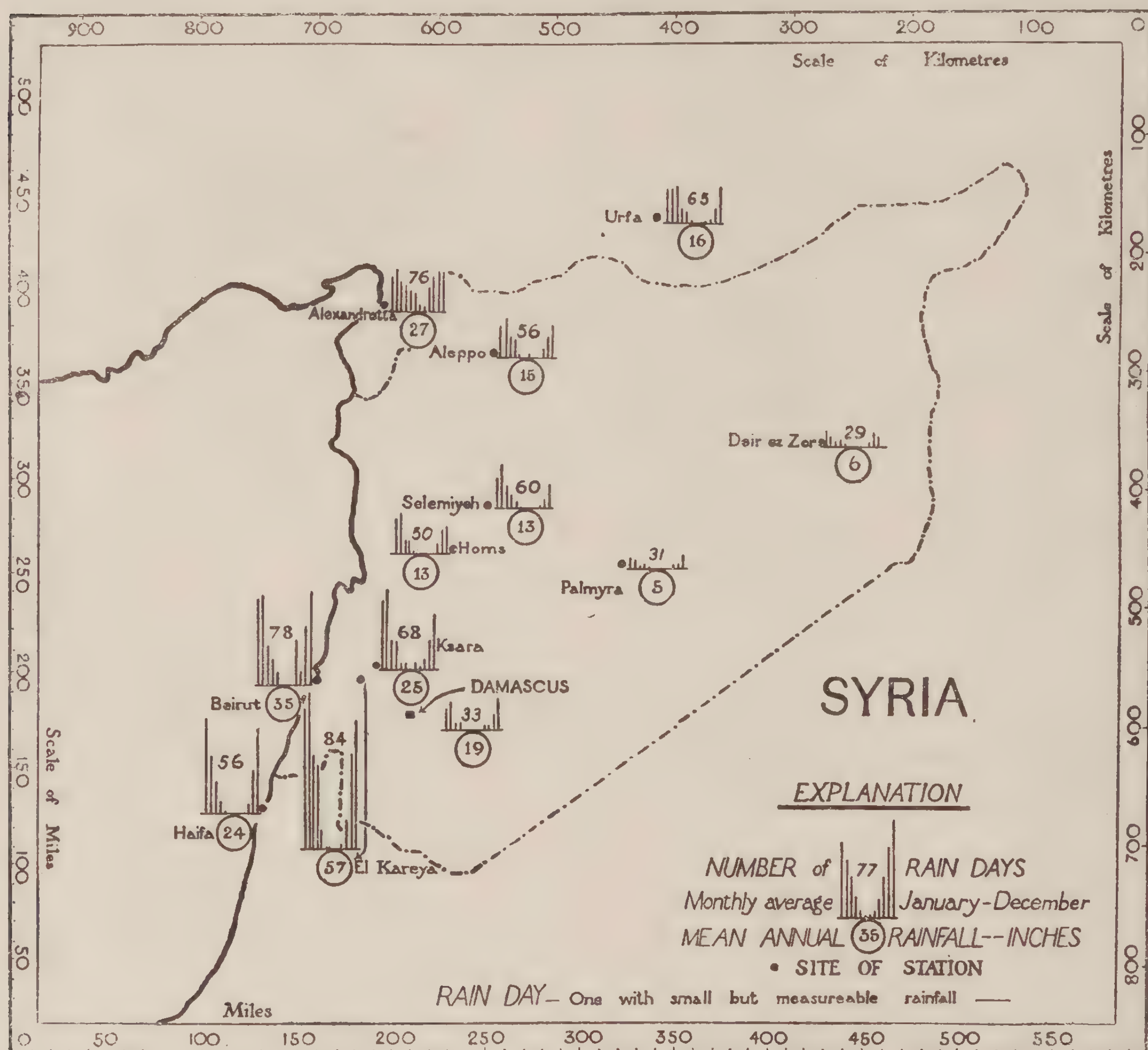


FIG. 33. *Mean monthly rainfall*

the Ghab and the Bekaa are in a 'rain-shadow' and rainfall is considerably less, though the number of rain-days is still fairly high (Homs 13 in. on 50 days; Ksara 25 in. on 68 days). Damascus, screened by Hermon, has only 9 inches on 33 days, and the oasis is therefore dependent on irrigation; Aleppo, less efficiently masked but farther north, has 15 inches on 56 days. In the steppe and desert to the east the air has already lost much of its moisture, and low relief combined with distance from the sea causes general aridity (Palmyra

[1] A rain-day is one on which not less than 0·008 inch of rain falls.

5 in. on 31 days; Deir ez Zor 6 in. on 29 days); but even here, when there is elevation, as in the Jebel Druse, precipitation is higher.

All these figures are annual means, which conceal wide fluctuations from month to month and from year to year. All stations may experience rainless months in summer, while those on the coast and seaward slopes of the mountains often get 10 inches, or even more, in a single winter month. The mean monthly rainfall for all stations shows an increase from October to December or January, and then falls off, but there are so many exceptional years that the mean amount cannot be expected (Beirut, December mean 7·3 in.; lowest 0·2, highest 13·6 in.; El Kareya, December mean 11 in.; lowest 2·5, highest 18·6 in.). Such an irregular rainfall may have a serious effect on the agricultural economy of the country; for if the rains begin late, or are interrupted, there is likely to be scarcity, unless they are prolonged after the end of the rainy season.

Hail

Hailstorms (Table 12) are not uncommon in western Syria, and occur with winter thunderstorms, most frequently in February and March. In 25 years an annual average of 6·7 days with hail was recorded at Beirut, with as many as 12 in one particular year, and an average of 7·8 at El Kareya. The heavy hail mentioned in the Bible is still a feature of such storms, and hailstones of an inch in diameter have been measured at Beirut. Beyond the mountains east of the depression hailstorms are exceptionally rare.

Snow

Snow (Table 13) falls on the western mountains, especially on the Lebanon and Anti-Lebanon, where it may remain in sheltered places throughout the summer. It is rare below 500 feet above sea-level, but during an exceptionally cold spell in 1920 snow lay on the ground for two days at Beirut. At El Kareya snow begins to fall in November, the heaviest falls usually occur in January and February, and the last in April. During the course of the winter between 3 and 10 feet of snow falls on the Jebel Ansariyeh, Lebanon, Anti-Lebanon, and Hermon, and some even falls on the Jebel Druse. A certain amount also falls in the central depression and in the Damascus oasis, but never remains long on the ground.

Dew

Dew is heavy all along the coast, occurring on an average one day in four throughout the year, but especially in summer when

light sea winds persist at night. It is then most valuable, owing to the lack of rain. At Beirut dews are commonest in May, June, and July, when nights with dew average one in three, but in some years they are as frequent as 20 or even 25 nights a month from May to October. Only a slight fall in temperature at night is necessary to make the roofs glisten in the morning as after a shower. Elsewhere dew is less common, but it falls on the southern slopes of Hermon; it is rare in eastern Syria.

Thunderstorms

Thunderstorms (Table 14) occur chiefly in the second half of autumn, in the first half of winter, and in early spring. The monthly frequency varies much from year to year, but on the whole they are commonest in November (Beirut 4 days), though Damascus shows the greater number, over a period of years, in February.

Miscellaneous

Sea and Swell

Most of the coast is exposed to all winds with a westerly component. Moderate or rough seas are not uncommon (for the Mediterranean) at Beirut (Table 15), where they are rather more frequent in winter than at other seasons. They usually accompany onshore winds between S. and NW., but the winter SW. gales may raise swell in places sheltered from the gales themselves. There is an average annual total of 36 days with rough, and 87 days with moderate seas.

Electricity in Dry Winds

Owing to the extreme dryness of the scirocco winds, and to the effects of wind friction, electric sparks may be drawn from insulated objects when this wind is blowing. Such electrical effects, however, appear to be produced only on a small scale, and inquiry has produced no reliable evidence of the occurrence of lightning in these circumstances.

Flying Conditions

In normal summer weather, from about 10.00 hours to 16.00 hours, flying is rough over the dry, hot, coastal and desert regions. The strong sea-breeze, which generally blows every day and often reaches about 20 knots, combined with intense solar radiation, gives rise to unusual gustiness in the lower atmosphere up to about 3,000 feet in the coastal and mountain belt. The early morning and the evening,

however, provide ideal flying conditions with calm, clear air. In the hot season dust, heat-haze, and sand-storms (p. 75) interfere with visibility, and may restrict flying operations in the desert.

B. VEGETATION AND FLORA

Two factors profoundly modify the typical Mediterranean plant-life as distributed over Syria as a whole (Fig. 34); the orientation of the principal mountain chains from north to south at a relatively short distance from the coast, and the northern extension of the Arabian desert to the east of the mountain chains. We have thus to recognize three main constituents in the flora: what may be called the Mediterranean element *par excellence*, the mountain element, and the desert element. Nevertheless all three have to be considered Mediterranean in a broad regional sense. The flora of the coastal lowlands consists mainly of species with a wide distribution throughout the whole or a large part of the countries bordering the Mediterranean basin; that of the mountains contains many endemic species (i.e. kinds of plants not found anywhere else in the world), but these are systematically related to more widely distributed Mediterranean plants, and many were probably derived locally from them, while others represent relict types of an earlier Mediterranean flora; the flora of the desert is also, in its general affinities, Mediterranean.

The flora of Syria has been fairly well studied, but the vegetation (i.e. of trees and bushes) has been very little investigated by modern methods, and most of the available accounts are fifty or more years old. Syrian vegetation has been very much modified through millennia by the action of man and his domestic animals. Such action affects the vegetation more quickly and more profoundly than it does the flora, particularly by the destruction of closed woody communities, since the species may not be completely exterminated. The results of this deforestation, and, what is even more important, the prevention of forest rejuvenation by heavy grazing, include not only great reduction in woodland plants but the increased spread, over greatly extended areas, of plants which can withstand the conditions of dry exposed hill-sides and similar habitats. A final result is frequently great erosion, which has disastrous effects on the soil covering.

Subdivisions

A more complete picture of the botany of the area would be obtained if Hatay, Transjordan, Palestine, Sinai, and the Et Tih

desert westwards to the Suez Canal were included. Within the narrower prescribed limits of this book one may consider the plant life under the following divisional headings: (1) the coastal area; (2) the Jebel Ansariyeh; (3) the Lebanon, Bekaa, and Anti-Lebanon; (4) the central steppes; (5) the Syrian desert. It is probable that this division is largely artificial and must be regarded as one of temporary convenience. Moreover, even valid botanical divisions rarely show sharply demarcated boundaries: nearly always there are transitional areas of greater or less extent. This is particularly true of the steppes and desert which merge very gradually together.

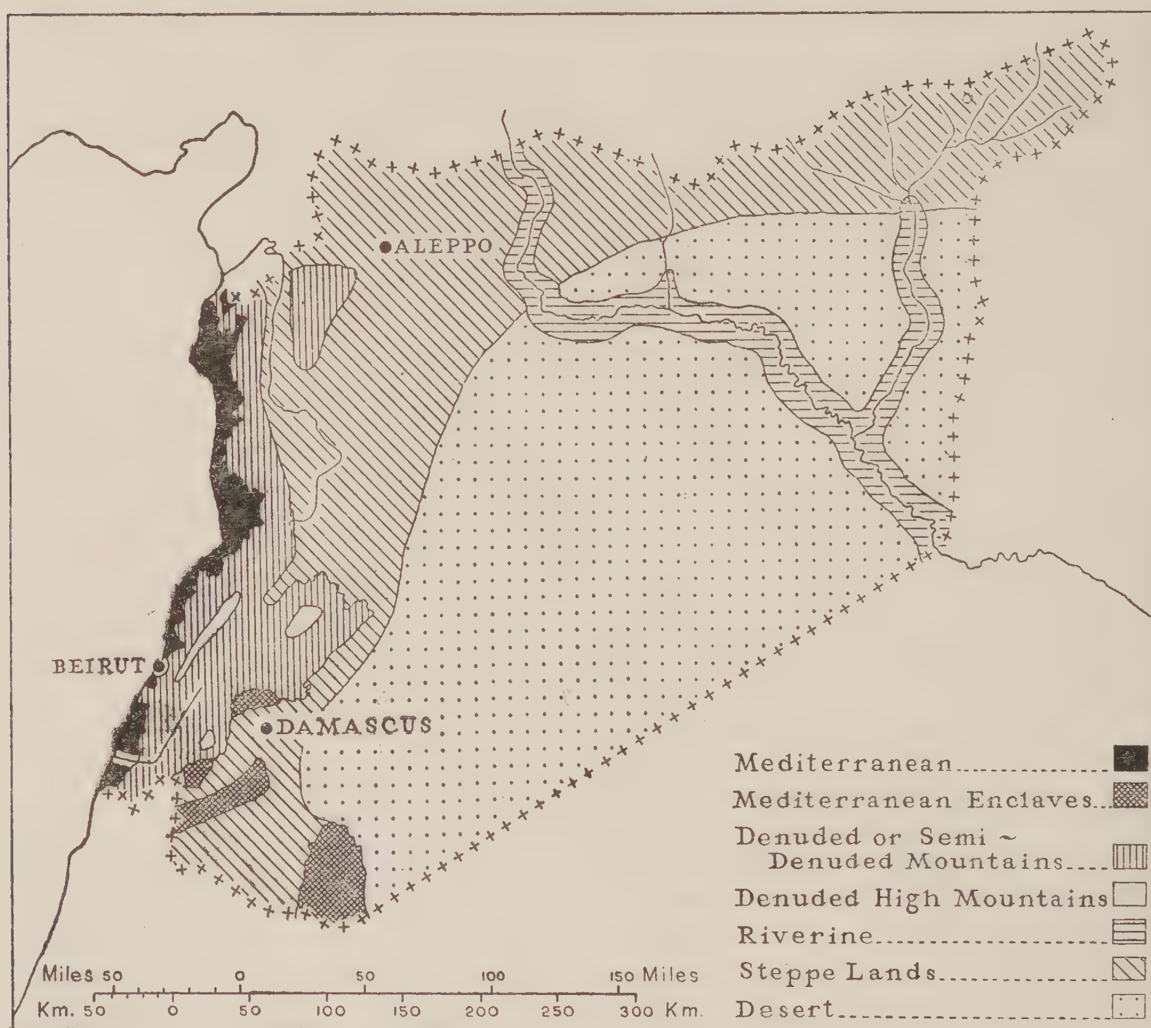


FIG. 34. *Vegetation Zones*

1. *The Coastal Area*

This is a narrow strip of varying width, between the Jebel Ansariyeh and the Lebanon and the sea, broken here and there where the mountains extend to the coast, and continuing southwards, with a break at Mount Carmel, through the Palestine littoral. It is the

most intensively cultivated of all the divisions and there are few areas of natural vegetation left. Large groves of mulberries, olives, figs, palms, and stone pines have been planted at various points along the coast. There are few native trees to be seen except on the banks of the streams, where alders[1] and willows[2] commonly occur. The sycamore fig is frequent near villages, where it has probably been planted by man, and terebinth[3] occurs here and there. Shrubs, where allowed to establish themselves, especially on stony and rocky ground, make a brushwood of which the commonest constituents are: a legume with bright yellow flowers, in blossom from December to May, known as *Calycotome villosa*, buckthorn;[4] honeysuckle,[5] tamarisk,[6] oleaster,[7] often cultivated and then self sown, jointed pine;[8] and a prickly climber.[9] Tall reed grasses[10] are characteristic of swampy areas and are also often used as hedge plants.

A large number of herbs with brightly coloured flowers occur as weeds amongst the crops or fallow fields, or on uncultivated land. Many of these are widespread Mediterranean types, but a few are known only from the Syrian littoral. The most abundant and showy of the wild flowers are: a brightly coloured anemone,[11] with scarlet, blue, lilac, or occasionally whitish flowers, in bloom from December to April; a large-flowered buttercup,[12] with crimson, yellow, or white blossoms often 3 or 4 inches broad, flowering in March and April; poppies,[13] of which one[14] has brilliant crimson flowers, 3 or 4 inches broad, with a deep blackish spot at the base of every petal, flowering from March to May and sometimes covering fields with a gorgeous mass of colour; a campion,[15] with pink flowers, often growing in large quantities so as to colour a considerable area from February to May; the yellow ox-eye daisies,[16] flowering from April to June; the campanula-like blue-flowered *Specularia speculum*, blooming from March to May; gladioli,[17] flowering in spring among the wheat; a blue-flowered iris,[18] and the asphodel,[19] with inch-broad white flowers and showy panicles.

[1] *Alnus orientalis.*
[2] *Salix alba, S. babylonica, S. fragilis.*
[3] *Pistachia palaestina.*
[4] *Rhamnus palaestina.*
[5] *Lonicera etrusca.*
[6] *T. pallasii.*
[7] *Elaeagnus angustifolia.*
[8] *Ephedra campylopoda.*
[9] *Smilax aspera mauretanica.*
[10] Especially *Arundo donax* and *Sacharum biflorum.*
[11] *A. coronaria.*
[12] *Ranunculus asiaticus.*
[13] Varieties of *Papaver rhoeas.*
[14] *P. syriacum.*
[15] *Silene atocion.*
[16] *Chrysanthemum segetum, C. coronarium.*
[17] *G. segetum* and *illyricum.*
[18] *I. sisyrinchium.*
[19] *A. microcarpus.*

Many of the lowland species extend some distance into the mountains, especially on the seaward side.

2. *The Jebel Ansariyeh*

These relatively low mountains are now largely denuded of high forest except in their northern parts, where they are said still to have good forests of Aleppo pine covering altogether some 25,000 acres. In places mixed with the pine there occur the sessile oak,[1] the Syrian oak,[2] and many fruit-bearing trees including pears and hawthorns. The central parts of the chain, over an area of 45,000 acres, have stunted oakwoods of the evergreen oaks and deciduous Syrian oak. These woods yielded charcoal for the towns of the Orontes valley. The southern part has numerous mulberry trees and clumps and small woods of the valonia oak,[3] whose acorn cups are much used in tanning. The shrubs recorded for the range include: rock roses,[4] tamarisk;[5] terebinth,[6] Judas tree,[7] strawberry tree,[8] heath,[9] *Styrax officinalis*, which yields storax, a resin much used in ancient times, the common yellow-flowered jasmine,[10] the privet-like *Phillyrea media*, oleander,[11] laurel, common cypress, which can grow to tree size, and juniper.[12] The herbaceous flora, so far as it has been investigated, is very similar to that of the coastal area and calls for no particular comment. It appears to have no, or very few, markedly peculiar or endemic species.

3. *The Lebanon, Anti-Lebanon, and Bekaa*

The great diversity of the chains of Lebanon and Anti-Lebanon, the lofty height of a large part of their mass, their north-to-south orientation, their isolation from other mountains, and the different meteorological conditions of their seaward and landward sides, give a special character to the flora of this subdivision.

There is no doubt that Lebanon and Anti-Lebanon were once densely wooded over much of their area. This is proved both by historical records and by the nature of the forest relicts. Many allusions in the Bible indicate that, at least as late as the times of

[1] *Quercus petraea*.
[2] *Q. syriaca*.
[3] *Q. aegilops*.
[4] *Cistus villosus* and *C. salvi-folius*.
[5] *T. pallasii*.
[6] *Pistacia palaestina*.
[7] *Cercis siliquastrum*.
[8] *Arbutus andrachne*.
[9] *Erica verticillata*.
[10] *Jasminum fructicans*.
[11] *Nerium*.
[12] *J. oxycedrus*.



Plate 55. *Cedars on Jebel Makhmal*



Plate 56. *Pine plantations outside Beirut*



PLATE 57. *Pinewoods in north Lebanon near Amiun*



PLATE 58. *Pinus pinea in Lebanon at Beit Meri*

Isaiah, Lebanon was a forest-clad range. Now, the greater part of Lebanon and Anti-Lebanon have arid slopes which, except where terraced and cultivated, are largely in process of erosion and degradation. The best forest remnants are in the north of Lebanon, where there is said to be a forest area of about 30,000 acres with, between 1,700 and 6,000 feet, woods of evergreen oak, Aleppo pine, cypress, juniper, deciduous-leaved (i.e. summer-green but winter-bare) oaks, and finally fir and cedar. The fir[1] forms the most beautiful forest populations in relatively inaccessible mountain districts. The principal forest trees of the subdivision are: the oaks,[2] the Aleppo pine, maples,[3] terebinth, junipers,[4] and a plum.[5] The carob[6] is scattered here and there over the lower slopes (Plates 57, 58).

The term 'forest' in the sense of a continuous, dense growth of trees, covering considerable tracts of country, can hardly be applied to any of the tree growth of Lebanon, apart from relatively small areas in the north, or to Anti-Lebanon, apart from a few isolated places on the eastern flanks. Isolated trees of the evergreen oaks, frequently planted near tombs of saints or sheikhs, often attain imposing dimensions, and stand out in bold relief on the mountain peaks and on the flanks of the ravines. Reference must be made to reafforestation by the stone pine, artificial plantations of which cover a considerable part of the low and middle mountain region near Beirut (Plate 56). The plantations, of various ages up to 80 years, are, in general, in a very satisfactory condition and are sufficient to prove that with an active and competent forest service Syria could recover a large part of its ancient forest importance (*see below*, p. 273).

Of cultivated trees, the olive, the mulberry, and the fig cover a large part of the slopes of Lebanon from its base to a height of 3,000 to 5,000 feet. Silk culture forms one of the principal occupations. Wheat and barley are cultivated to a height of 6,000 feet. At the higher levels they are sown in autumn, sprout immediately, and are then covered with snow, which, with the cold, kills the tips; but as soon as the snow melts they grow rapidly and vigorously in the moist soil, and produce strong stalks and fine grain.

The following brief outline indicates the zonation of Lebanon from

[1] *Abies cilicica.*

[2] *Quercus ilex, Q. calliprinos, Q. palaestina, Q. syriaca, Q. cerris, Q. libani, Q. ehrenbergii.*

[3] *Acer monspessulanum, A. syriacum.*

[4] *Juniperis excelsa, J. drupacea.*

[5] *Prunus ursina.*

[6] *Ceratonia siliqua.*

the maritime plain to the highest peaks. On the lower slopes in addition to the artificial plantations of the stone pine there are more or less natural groves of the Aleppo pine and scrubby brushwood of kermes oak in one or other of its varieties or closely allied species. At 1,000 feet a heath[1] flourishes, especially on the red sandstone which crops out occasionally from the limestone, and low shrubby rock-roses[2] are common. About 4,000 feet conspicuous plants are valerian[3] and danewort.[4] From this altitude the flora begins to be montane in character with such plants as sea-holly,[5] and the common rhododendron. It is at still higher altitudes, in the so-called 'alpine' or high mountain zone, that the marked peculiarities of the Lebanon flora and vegetation appear. Especially characteristic are innumerable, often hemispherical, clumps of spiny milk vetches,[6] of a plant allied to sea-lavender and known as *Acantholimon libanoticum*, and of sainfoin.[7] On the surface of the rocks are intricately branched shrubs of dwarf cherry[8] and cotoneaster.[9] In patches of soil among the rocks and on stony hill-slopes there are numerous herbaceous perennials, many of which are endemic to this subdivision.

The broad high plain of Bekaa is practically treeless. Especially characteristic of its vegetation, where the ground is not cultivated, are species of milk-vetch, many of them belonging to the low shrubby or sub-shrubby and densely spiny sections of the genus: species of mullein,[10] mostly with yellow flowers on tall flowering stems; knapweeds; some of the daisy family; and various members of the dead-nettle family.

4. *The Central Steppes*

This is by far the largest of the subdivisions and in some respects is the most artificial. This huge area shows considerable diversity in physical, soil, and climatic features, but as the greater part of it is intermediary between the desert and the mountain zone of western Syria, it is most convenient at present to treat it as a major botanical subdivision. The marginal mountains on the western border are to a certain degree accountable for the desolation of large tracts of the interior. The fact that the northern steppes are much less desolate than the Hamad is not only the result of its latitude but also of its

[1] *Erica verticillata.*
[2] *Cistus villosus*, with red flowers, and *C. salviifolius*, with white flowers.
[3] *Centranthus longiflorus.*
[4] *Sambucus erubus.*
[5] *Eryngium billardieri.*
[6] Species of *Astragalus.*
[7] *Onobrychis cornuta.*
[8] *Prunus prostrata.*
[9] *C. nummularia.*
[10] *Verbascum.*

physical relations. The floral and vegetational richness of the steppes and their abundance of endemic plants are also in part a result of the physical diversity of the area, which produces a series of habitats which are scarcely or not at all represented in the Hamad. There is considerable soil diversity, and the following types of terrain have been recognized: a soft greyish steppe soil is the commonest type; it is the product of weathering of Senonian and Tertiary limestones; *terra rossa*, more compact and less permeable than the other types, occurs on the desert borders, especially in the north; basalt soils, rather variable but often barren except in the Hauran and Jebel Druse; sandy soils; salt-marsh soils; and gypseous soils. Local and annual variations of climate, particularly of rain, considerably influence the degree of development of the vegetation and its kind.

The flora is surprisingly rich. At least 2,000 species are known from the steppes and the Hamad together; since botanical exploration is far from complete, it can be assumed that many more remain to be added. The diverse physical, soil, and climatic conditions and the geographical position of the subdivision account for its floral richness. From the standpoint of their general geographical distribution there are two main elements: the Mediterranean element, in the narrower sense to include plants ranging through all or only the eastern countries of the Mediterranean basin; and a north-eastern and eastern element which probably spread into Syria mainly from Anatolia and Iran across Iraq. There is also a desert element proper, which is more characteristic of the Hamad, with a wide range through the desert belt from the Sahara to north-west India. Very minor contributions to the flora have been made by other groups.

Practically the whole of the flora, apart from the Mediterranean enclaves, is dominated by the north-eastern and eastern element. The following account summarizes present knowledge of the most important of the plant communities in the territory. Many of the foothills and slopes of the mountain chains, whether bordering or wholly within our subdivision, have stands and forest remnants of terebinth,[1] often in a park-like landscape of scattered trees with herbaceous vegetation between. A few shrubs and sub-shrubs are associated with this terebinth, and include buckthorn,[2] plum, wormwood,[3] and some of the goosefoot family (Plate 61).[4] Lotus[5] and

[1] *Pistachia atlantica.*
[2] *Rhamnus palaestina.*
[3] *Artemisia herba-alba.*
[4] *Noea mucronata, Haloxylon articulata.*
[5] *Zizyphus lotus.*

sumach[1] occur locally in small stands. One of the most important communities is that of the white wormwood,[2] which is very common and is characteristic of the vast undulating plains, but also ascends the slopes of the Anti-Lebanon and Hermon to a height of 6,000 and 6,600 feet. It prefers the deep greyish-white, somewhat compact steppe soil, and completely avoids saline or rocky soils. In the spring the wormwood is associated with many annuals, but itself flowers late.

Jebel Druse and Hauran. Actual compact occurrences of Mediterranean basin plants are few and are mainly limited to the Jaulan and Jebel Druse, where evergreen brushwoods (maquis) and forests of an evergreen kermes oak[3] occur. Nevertheless the flora of the desert borders, especially to the north, is strongly permeated with elements of Mediterranean basin type. In the Jebel Druse north of Suweida the oak forest is of a very striking kind at an altitude of 4,000 to 4,300 feet, recalling a park-forest. Between the trees a herbaceous layer develops consisting of Mediterranean grasses and other herbs. Stunted specimens of hawthorn[4] occasionally occur. In the Jebel Druse there are also remnants of a mountain forest type with hawthorn,[5] maple,[6] cotoneaster,[7] and the Turkey oak.[8] On the Jebel Druse, besides occurring as a tree, this kermes oak is also an important associate as a shrub of a special type of brushwood in association with two hawthorns,[9] the common almond, and a pear.[10] The Jaulan also has distinct Mediterranean communities of oak;[11] evergreen brushwood with dwarf oak[12] associated with terebinth;[13] and the dwarf shrub association of the spiny salad burnet.[14]

5. *The Hamad*

The interior of the Syrian desert, although divided up into a rich network of valleys and wadis, has no permanent watercourse and consequently no marsh nor aquatic vegetation, such as is locally richly developed along the Euphrates and Jordan. On the other hand, the numerous wadis which run dry in the midst of the desert account for the accumulation of saline marshes and the development of a flora of plants able to withstand considerable quantities of salt in the

[1] *Rhus tripartita.*
[2] *Artemisia herba-alba.*
[3] *Quercus calliprinos.*
[4] *Crataegus azarolus.*
[5] *Crataegus monogyna.*
[6] *Acer microphylla.*
[7] *C. microphylla.*
[8] *Quercus cerris.*
[9] *Crataegus sinaica* and *C. azarolus.*
[10] *Pyrus syriaca.*
[11] *Q. ithaburensis.*
[12] *Q. calliprinos.*
[13] *Pistachia palaestina.*
[14] *Poterium spinosum.*



PLATE 59. *Riverine vegetation along Euphrates at Deir ez Zor*

PLATE 60. *Spring vegetation of Hamad*

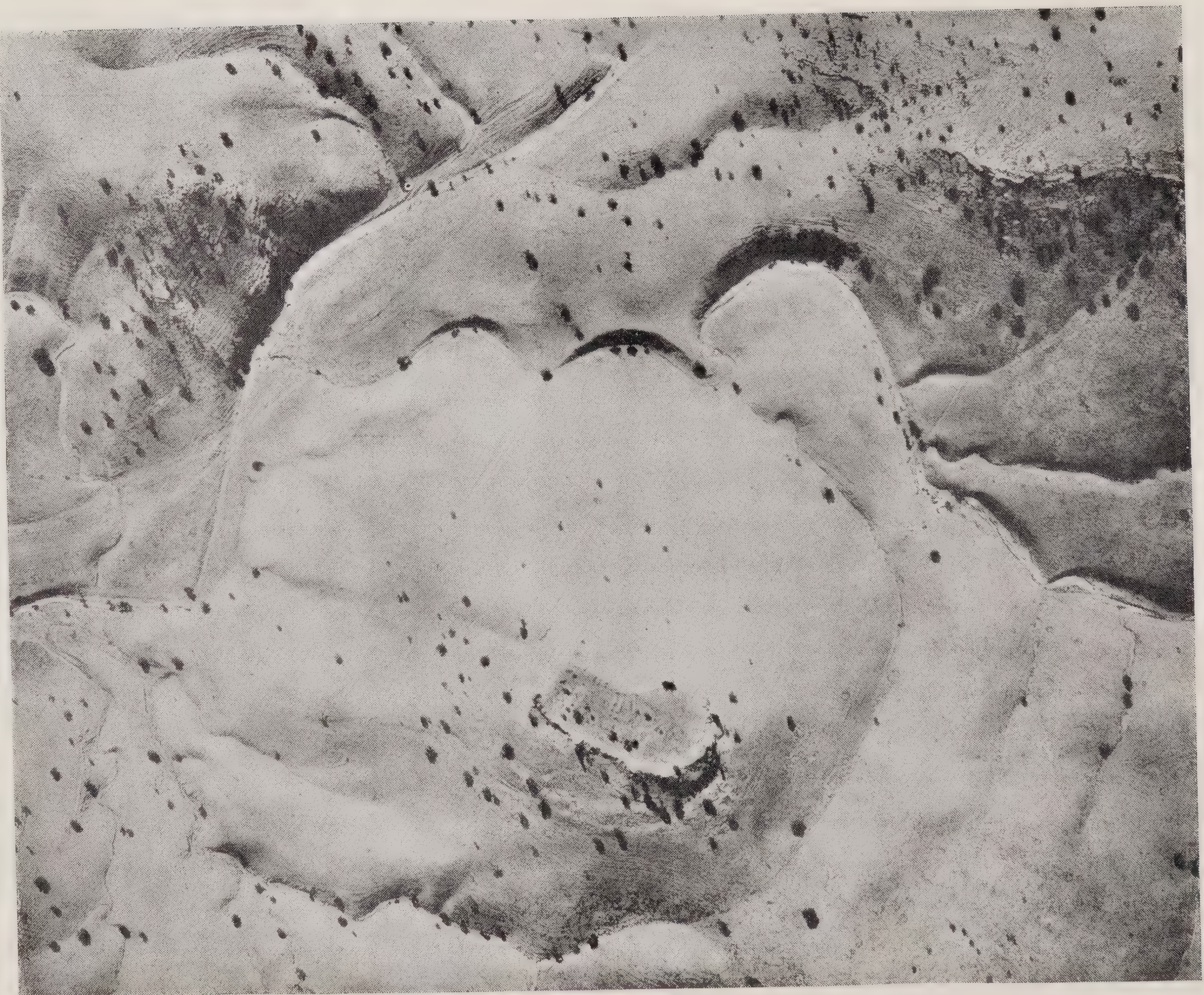


PLATE 61. *Sparse bushes on Jebel Abdul Aziz*

soil and soil-water; technically such plants are known as *halophytes*. Moreover, many wadis play an important role in the plant life of the Syrian desert, since they are the only areas where vegetation can grow in otherwise immense barren stretches and, therefore, form centres of distribution and preservation for the desert flora.

A common association of stony and gravelly soils is dominated by the sub-shrub *Haloxylon articulatum*, a member of the goosefoot family. In wetter and more saline places other members of the same family form local communities. Along the banks of the Euphrates a member of the mimosa family,[1] and the Euphrates poplar,[2] are common and are associated with species of willow[3] and tamarisk.[4] This riverine forest is very striking since it is situated in the midst of a desert landscape (Plates 35, 59). Other plants encountered along the watercourses are tall reed grasses,[5] the reed-mace,[6] the oleander, and blackberry.[7] Communities particularly associated with saline habitats are mainly confined to the sabkhas, which occur in the immediate vicinity of salt lakes. The plant life of the sabkhas consists largely of members of the goosefoot family associated with species of tamarisk and sea rushes.[8]

The extreme desert element (*saharo-sindian*) is of minor importance, except that some of its constituents penetrate northwards and mix with the predominant northern and eastern elements discussed above. To the south of the Syrian border the desert element is dominant in so far as the increasing severity of desert conditions permit plant life of any description. The majority of the plants are either such as can withstand dry conditions (*xerophytes*) or saline habitats, or are annuals which flourish only during the short rainy periods. But it is extraordinary how quickly these annuals come up and spread a carpet of green for a day or two (Plate 60).

Woody Vegetation

As already remarked, Syria is now largely deforested. Nevertheless, the relics of woody vegetation are important as indications of what methods should be used in reafforestation. There is no doubt that reafforestation of very considerable areas would confer great benefit on the country in supplying timber and fuel, in reducing erosion,

[1] *Prosopis stephaniana.*
[2] *Populus euphratica.*
[3] *Salix salsaf, S. acmophylla.*
[4] *T. jordanis.*
[5] *Arundo donax, Phragmites communis.*
[6] *Typha angustata.*
[7] *Rubus sanctus.*
[8] *Juncus maritimus.*

and in conserving water supplies. As throughout the Mediterranean region generally, the great enemy of natural forest is man, in the long run less by his direct destruction of forests, though ruthless exploitation is the initial cause of deforestation, than by his introduction and maintenance of large flocks and herds, especially of goats and sheep, which effectively prevent natural rejuvenation by the eating off of nearly all seedlings and allowing the few that survive only to develop into dwarf gnarled shrubs (Plate 61). The woodlands of the Lebanon and of the Jebel Druse have been generally described earlier; the following is a systematic account of the types of woody vegetation which are found at different levels in the mountains of western, and occasionally of central Syria.

1. *Woods of Evergreen Oaks*

These occur on the first slopes of the mountains up to about 3,000 feet. Most often they form evergreen brushwood in various stages of degeneration. Oaks with persistent leaves[1] are the dominant constituents, but are often accompanied by junipers, lentisk, strawberry tree, myrtle, and at the higher limits, *Styrax officinalis*. The wild olive[2] forms bushes here and there and the carob[3] also occurs. The height varies greatly from a few to 20 or more feet. The brushwood may be dense and practically impenetrable without mechanical aid, or scattered bushes may form an open type of scrub. Where cutting is prohibited the oaks develop in height and form a practically pure tree canopy with an almost continuous undergrowth of myrtle, or of myrtle and laurel. Such woods give a maximum of cover.

2. *Forests of Stone Pine*

These may establish themselves or be established as artificial plantations at the same altitudes as the woods of evergreen oaks, but by preference on sandstones. The communities are generally pure, but sometimes there is a weak admixture of Aleppo pine. The forest is sometimes fairly dense and the canopy thick, undergrowth being then meagre. Mature woods are from 30 to 60 feet in height (Plates 56–8).

3. *Forests of Aleppo Pine*

These are met with normally up to 5,000 feet. At the lowest altitudes the Aleppo pine is short and flexuose, and the wood is composed of well-spaced trees with abundant undergrowth of evergreen

[1] *Quercus calliprinos; Q. palaestina.*
[2] *Olea europaea.*
[3] *Ceratonia siliqua.*

oaks, lentisk, terebinth, and juniper. At higher altitudes the trees are more slender and fruit at a more advanced age. At the same time the undergrowth is modified by the appearance of elements less able to withstand the drier conditions of the lowest slopes, such as *Styrax*, Judas tree, and deciduous oaks. The strawberry tree is much commoner. At about 2,300 feet varieties of the sessile oak[1] appear and make part of the tree canopy. At 3,000 to 3,300 feet vigorous pure populations of Aleppo pine appear. The trees are then close together and the undergrowth of shrubs largely or completely disappears. Trees may grow to a height of 60 feet or more, but the overhead canopy is less dense than that of the stone pine.

4. *Forests of Cypress and Juniper*

On calcareous and very arid soils the cypress[2] is often the only forest species, occurring in very open populations with a rather sparse undergrowth. Occasionally cypress and Aleppo pine are associated together, forming more compact communities. Somewhat similar communities of junipers occur in arid sandstones; *Juniperus excelsus* may attain a height of 60 feet.

5. *Forests of Deciduous Oaks*

In the plains on rich soil deciduous oaks sometimes occur in small woodland patches. The species here is usually either the valonia oak or one of the kinds related to the Syrian or zéen oak. In the middle mountain zone the first forests of oak are a mixture of sessile and Syrian oaks, with an undergrowth of one of the evergreen oaks. When the soil is sufficiently rich there is considerable admixture of elements, including hawthorns, cherries, pear, &c., and in the undergrowth terebinth, sumach, and Judas tree are important. Towards 3,300 feet the sessile oak becomes almost completely eliminated and the other elements form a woody community with entirely herbaceous undergrowth. Where specially protected, either artificially or by inaccessibility, the valonia oak may grow to a height of 20 feet and the sessile oak to a height of 60 feet; trees of the zéen group have usually an intermediate height.

6. *Woods of Humid Gorges*

Along stream courses up to 5,000 feet altitude there is frequently a belt, several yards wide, of trees with deciduous leaves. The

[1] *Quercus petraea.*

[2] *C. sempervirens.*

oriental plane, one of the parents of the well-known London plane, is especially prominent and is often accompanied by alder, walnut, willows, and poplars, with an undergrowth of oleander. The average height of this narrow belt of trees is probably about 20 feet, but individual planes may be much taller. In places the canopy, when in leaf, is dense (Plates 15, 16, 139).

7. *The Montane Forests*

At 4,300 feet remnants of conifer forests are found in the Lebanon. The fir[1] and cedar[2] are the high tree constituents, accompanied, when the community is fully developed, by a thick undergrowth of oaks and a very abundant maple,[3] associated with junipers (Plate 6). Undue cutting and, especially, the abuse of common pasture results in the wider and wider spacing of the trees, the drying out of the soil, and the disappearance of seedlings. There is no doubt that the Lebanon cedars have been considerably reduced in numbers even in the past few decades, but it is difficult to obtain accurate and full information of their present state and number. The famous grove at Bsharreh, at the head of the Kadisha valley, at about 6,200 feet elevation, has often been described by travellers. The trees (Plate 55) are of great age, but owing to the extreme severity of the climate and the poor calcareous soil, they were extremely slow in growth and made amazingly narrow rings annually. The growing season is remarkably short, snow rarely quitting the basin in which they grow before the end of July. When Sir Joseph Hooker visited the grove in 1860 there were 398 trees, of which 15 were much larger than the others. The two largest had each a trunk 13 feet in diameter and about 40 feet in circumference. The number seems still to be maintained at about 400. The fact that the grove was held sacred no doubt accounted for its preservation. Some three or four other groups of cedars have been recorded from the Lebanon, but their present extent and condition are unknown.

The considerable number of fruit-trees to be found wild or in cultivation in Syria is striking. There is no doubt that much of the country is highly suited to fruit cultivation on a large scale, the kind of fruit best suited to the local conditions varying with the climate.

[1] *Abies cilicica.*
[2] *Cedrus libani.*
[3] *Acer syriacum.*

C. FAUNA

SYRIA has a fairly varied fauna, though possibly not so extensive as in Biblical times, when many more of the larger wild animals were found than now exist.

The domestic animals include the horse, used mainly for riding. The ordinary variety came formerly from Asia Minor; the real Arab horse is only found in Transjordan. Mules are used as pack animals, especially in the mountains. They are of mediocre size, and are usually bred in the Litani valley. Donkeys are of universal importance as they are hardy, can bear heat and require little water, as well as being sure-footed, and what is more important for the peasant, they are cheap to buy. The camel is used almost exclusively by the beduin in Syria, for whom it is the beast of burden, and its milk forms a considerable part of their food; camel hair is used for coarse textiles. The Arabian camel is brown and shaggy, that from Asia Minor, better and hardier, is grey and short-haired.

On the whole cattle are small and lean and of poor quality because of the scarcity of good grazing land. The black buffalo[1] lives chiefly in the Bekaa, but is also found in river valleys and the marshy tracts of the coastal and other plains. Sheep are ubiquitous, but are mostly found in the lower hills; the fat-tailed sheep[2] is more common in the higher regions of the Lebanon and the Kurdish mountains. The goat is by far the most numerous of all the domestic animals, as it is capable of living where no other beast would find anything to eat; it is very destructive, especially to woods (Plate 61). Near Hermon the Angora goat is found. There are only a few pigs in Syria, probably owing to the fact that only Christians eat pig's flesh.

Since the last war the pariah dog has become comparatively scarce, and now is only found in numbers in isolated villages and compounds. Civil and military officials have introduced new breeds, greyhounds and hunting dogs—spaniels and eskimo dogs—but the tax on such dogs limits their numbers. The Kurdish watch-dog is found in some villages in the Euphrates valley.

The wild animals were probably very much more varied and numerous in Biblical times than now, and included lions, wild asses, hippopotamus, and crocodiles. The bear, found occasionally in the upper regions of the Lebanon, is the largest of these remaining wild animals. Roebucks, stags, and fallow deer used to abound in

[1] *Jamus.*

[2] *Ovis laticaudata.*

Syria, but are now rare, and other varieties, such as elk and reindeer, are now extinct, but antelope and gazelle are still found in the Hamad. Others are the polecat, wild cat, and ichneumon, porcupine and hedgehog, squirrel, martin, ermine, otter, dormouse, rats (black rat on the coast, ordinary rat in the towns, and many varieties in the fields), several kinds of hare (but no rabbits), and a kind of badger.[1] The onager is occasionally found in the eastern desert. Wolves and cheetahs, which abound farther south in Palestine and Transjordan, are rare in Syria.

Birds

Birds migrating from Africa and Europe settle for a period in Syria, those from the south in winter and those from the north in summer, and each region shelters different species.

Of the wild fowls there are the hen, turkey (introduced by the Circassians), quail, red partridge, yellow partridge (found in the desert), francolin, wood-pigeon, and turtle-dove. Black partridge are found along the Euphrates; and sand-grouse often appear in vast numbers, being visible only when they rise from the ground. Flamingoes, pelicans, cormorants, teal, sheldrake, herons, snipe, sandpipers, rails, curlews, lapwings, and plovers frequent the marshes and lakes in the central depression, lakes Ateibeh and Hijaneh, and marshes on the coast. Bustards, including the Great European variety, are found in the desert, also some ostriches. Most European varieties of migratory birds are found in Syria: goldfinch, chaffinch, blackbird, thrush, and greenfinch (in winter); house-swallow, white-throated swift (in spring); nightingale (in April); sparrow, tufted lark, yellow-hammer, stone-chat (in the desert), swallow, starling, wren, peewit, fifteen varieties of warblers, and more rarely the canary from the Canary Islands. Kingfishers are found in the Jordan valley, also the cuckoo, woodpecker, and wryneck. Ducks, geese, and swans are found between November and April, storks and cranes in April alone.

Birds of prey, found in the higher mountains, include six species of eagle, two of buzzards, three of kites, and four of falcons. Hawks are also found, and varieties of owls—screech-owls in the marshes, barn-owls, and white-owls.

Reptiles and Amphibians

There are several varieties of adders and vipers; the horned viper is found in the Syrian desert. Lizards and chameleons are also com-

[1] *Hyrax syriacus.*

mon. There are seven kinds of tortoise, and toads, frogs, and tree-frogs.

Insects

There are many kinds of butterflies, 400 kinds of beetle, 31 species of ant; wasps, hornets, two types of bee (Syrian and Cypriot), fleas, flies, lice, and scorpions and centipedes in parts of the desert. Grasshoppers and locusts can be very damaging to crops, but universally the most harmful is the mosquito, which renders the Ghab almost uninhabitable in summer for the European, and, as a cause of malaria, is extremely harmful to the inhabitants of any marshy or swampy region.

Fish

Fish are abundant in most of the lakes and rivers of Syria, especially in the Ghab and Euphrates, and in the shorter rivers of Lebanon as well as the Litani. Most of them belong to the species *chromis*, *capoeta*, *mugil*, *barbus*, *alburnus*, and *cyprinodon*, and include crabs, eels, fresh-water mullet or *bouri*, bass, barbel, and several varieties of *Siluridae* (black fish), of which *Silurus glanis* or *jerieh* and also a barbel (*roum* or *akhmar*) reach a length of 6 feet, weigh up to 60 lb., and are common in the Euphrates. Another barbel called *benni* attains fantastic proportions. The cyprinodon are mosquito-eaters. The *khecheni* or *Varicorhinus trutta* resembles trout in appearance and taste, but there are no true trout or salmon in Syria.

Hunting and Fishing

The shooting season is open from 1 September to 31 January, but quail can be shot at all seasons. On the other hand, only one gazelle (male) may be shot per person each year; killing of females is forbidden. Quails, partridge, wood-pigeons, and hares are the most plentiful type of game. Waterfowl are abundant on the lakes, and in the marshes and swamps, where the fishing also is good.

Line and net fishing are practised, and native fishers use narcotics and explosives for river fishing, especially in the Euphrates. For the former the bark, flower, or fruits of certain plants are mixed with clay or flour paste, and thrown into the water. After a while the fish rise to the surface stupefied and are then harpooned by the fisher. If they are carried away by the current they may escape, as the effect of the narcotic wears off after some time. The berry of the 'Coque

du Levant' (*Anamyrta cocculus*) is used mostly in Syria. The use of explosives (less common in river fishing) is a relic of the last war, and is more destructive, as young fish are destroyed for some distance around. There are laws against this method, but the police turn a blind eye, and local magistrates only impose very small fines. Inland fishing is the most miserable of professions in Syria, followed only by the most needy who barely earn a living by selling the cheapest of foods to the poorest of the population.

CHAPTER V

HISTORY

I. Early Times to Alexander the Great

THE Phoenicians claimed that their traditions reached back for 30,000 years, and the remotest traces of human occupation in the country may be even older, but the earliest culture which has precise affinities with those of historical Syria dates, in all probability, from the beginning or middle of the fourth millennium B.C. It was first identified at Tell Halaf, a place close to the Khabur river near the northern boundary of modern Syria (Fig. 35). Remains of it have since been found on many sites west of the Tigris, including Carchemish (*mod.* Jerablus), Hama, and Ugarit (*mod.* Ras Shamra). Tell Halaf pottery is one of the finest hand-made wares of antiquity; it is decorated in a genuine glaze paint like that used in Greece by the Mycenaeans more than two thousand years later, with designs which include a man with a chariot, animals, a deer looking over its shoulder, Maltese crosses, and such familiar Syrian symbols as the double axe and the bull's head. Knives and scrapers, beads and vases were made of obsidian, which is found in the neighbouring volcanic mountains. There are amulets in the form of doves and double axes.

The foothill region in which this culture arose was richer in natural resources than Egypt or Babylonia; it was fertile and well wooded, lending itself alike to agriculture and stock-raising, near mountains which provided building-stone and obsidian. But the physical features did not encourage the close political unification which was effected later in the valleys of the Nile and the Euphrates, but rather led to the retention of comparatively small independent communities —tribes and city-states—separated from one another by stretches of desert or swamp where elephants and lions survived down into the first millennium B.C. The people had wheeled carts, and their typical wares have been found over such a wide area that there must have been busy traffic between the different groups. This culture made vital contributions to the fabric of civilization in the Near East.

Early Contacts with Egypt and Babylon

Unlike the neighbouring empires of Babylon and Egypt where written documents, hieroglyphic and cuneiform, reach back to the

fourth millennium B.C., materials do not exist to compile even an outline history of Syria before the second millennium. From external sources one can catch glimpses of what was happening from time to time and even draw detailed pictures of conditions at particular moments in particular places, but at present the oldest documents that give a wider view of any considerable part of the country are the Egyptian annals of Thothmes III, which date from the first half of the fifteenth



FIG. 35. *Settlements in Hittite and Assyrian times*

century B.C. But there is no reason to suppose that the earliest inhabitants, by whatever name they were called—Amorites, Hurrians, Canaanites, Phoenicians, and the like—differed much in type from the present population, and many places still retain the names given them in the third millennium and probably earlier. The Phoenician cities on the coast were mainly engaged in trade; those in the interior were the capitals of petty States which were constantly at war with one another; large areas were occupied by wandering tribes.

For some two thousand years before the time of Thothmes, Syria

was in close relation with its neighbours; the cities on the coast were affected by the ups and downs of the Egyptian dynasties, those in the east by political vicissitudes in Babylonia and west of the Tigris. Byblus (*mod.* Jebeil, p. 64), a port about midway between Beirut and Tripoli, may be taken as an example of the former. It had a thriving trade with Egypt in the time of the Old Kingdom (dynasties I–VI, *c.* 3400 B.C. to 2475 B.C.). In later days it was chiefly famous as a religious centre, but at this time it seems to have secured a monopoly of the timber trade, probably because it controlled the best-wooded slopes of the Lebanon. Egypt needed enormous quantities of timber for boat-building, pylon masts, houses, and coffins; it took also resin for embalming the dead, olive oil, bears and other animals. In exchange it sent alabaster vessels and probably gold, fine linen, singing girls, and slaves. A temple in Byblus with reliefs in the style of the sixth dynasty shows how Egyptian influences permeated the place.

The Old Kingdom in Egypt endured for nearly a thousand years, but it had no regular standing army and was unwarlike, so that the country was eventually overrun by better-armed invaders from Asia. The disruption of civilization which lasted for about three centuries is described in an Egyptian text which is called the *Admonitions of a Prophet*: 'Men do not sail to Byblus to-day: what can we do to get cedars for our mummies? Priests are buried with their produce and princes are embalmed with their resin as far as the land of the Keftiu [Crete or Cilicia], and now they come no more. Gold is diminished.' Egypt recovered under the twelfth dynasty, about 2000 B.C., and relations with the Syrian coast were resumed; the kings of Byblus began to give themselves Egyptian titles; costly presents from Egypt have been found in the royal cemetery above the harbour; some grotesque imitations of Egyptian colossi and a row of dwarf obelisks have been excavated at Byblus.

Similar evidence comes from Ugarit (*mod.* Ras Shamra, p. 58). This port, which is a few miles north of Latakia, was at the west end of the route following the northern Kebir valley through the Ansariyeh mountains to the interior; it is one of the sites where Tell Halaf ware has come to light, and had much wider relations than Byblus both with the East and with the Aegean, but fewer with Egypt. Several fragments of twelfth-dynasty Egyptian statuary were found here also, among them the monument of an ambassador, but all are savagely mutilated as if there were a fanatically anti-Egyptian party in the community. (Plate 41).

Mari (*mod.* Tell Hariri), a place on the west bank of the Euphrates just upstream of Abu Kemal, may be taken to illustrate conditions in one of the eastern States. It has been excavated recently by a French expedition. The greatest discoveries here have been made in a palace which dates from the time of Khammurabi, king of Babylon between 1792 B.C. and 1750 B.C. (Plate 63). Some of the walls still stand 20 feet high; one of the chapels was brightly painted, like an eastern church, with religious scenes from ceiling to floor; one room was furnished like a schoolroom with rows of benches in mud brick. The sculpture is some of the finest that has been found on the banks of the Euphrates, and is instinct with grace and vitality. More than twenty thousand written tablets have been recovered, and the few of them which have been published have already thrown much light on the period. A raid by the king on one of his neighbours is mentioned on one, with a list of the cattle, asses, and sheep which he carried off and of the women captives, who were to be employed in weaving; others refer to coalitions and intrigues with States in the north, such as Carchemish and Aleppo. There are eight references to Byblus and five to Ugarit, including a letter from the king of Ugarit who asks to see the Mari palace. Copper from Cyprus and objects from Crete are also mentioned. It is obvious that at this time there were close and regular communications between Syria, Mesopotamia, Phoenicia, and the Aegean. The correspondence contains many picturesque details: complaints of quarrels between the settled folk and the nomads, of soldiers who have taken to brigandage; reports on the height of the Khabur river, on a famine or pestilence, and on eclipses and portents; requests from the king for white horses, dogs, live fish and live lions; in one letter a royal servant asks to be excused for having killed and eaten a lioness on the ground that it was old and tottery. Here in the east, Babylonian or Sumerian influences were naturally predominant.

The Hyksos, c. 1720 B.C.

Egypt still dominated western Syria at the beginning of the second millennium, but about 1720 B.C. the tables were turned; Egypt was again overrun, this time by a people whose power was based upon Syria, the Hyksos or 'Shepherd Kings', as the name used to be translated. The Hyksos, a mysterious people of unknown origin, introduced into Egypt the horse and the horse-drawn chariot, and possession of this new arm was no doubt the secret of their success. They were driven out of Egypt and pursued into Syria in the sixteenth



PLATE 62. *Temple of Bacchus at Baalbek*



PLATE 63. *Royal palace at Mari*



PLATE 64. *Roman road from Antioch to Alepp*

PLATE 65. *Fortified town of Dura-Europus*

century by the great kings of the eighteenth dynasty to which Thothmes III belonged. One of these, Thothmes I, set up a stone boundary tablet on the Euphrates and hunted elephants somewhere between Aleppo and that river, but the systematic reduction of Syria was the work of Thothmes III (*c.* 1501 B.C. to 1447 B.C.).

Thothmes III and the Egyptian Dominion, c. 1475 B.C. *to 1365* B.C.

At the time of Thothmes III, Syria was a rich country thickly dotted with towns and villages: on the records at Thebes of the campaigns of Thothmes in Palestine and Syria, the names of 119 captured places are listed in the accounts of the earlier years, 248 in the later ones. The immense booty which he seized at Megiddo—including 924 chariots and treasures of gold, silver, and lapis lazuli—is a proof of the wealth in the country. The rulers of the towns are called kings by modern writers, as they were by the translators of the Old Testament, but the term headman or sheikh might be more appropriate, and there were few probably who did not recognize some paramount chief; at Megiddo, for example, Thothmes was confronted by a confederation of kings led by the king of Kadesh, a place far away on the west bank of the Orontes south of the Homs lake. Yet more distant were the paramount kings of Naharin, the country between the Orontes and the Euphrates, and those of Mitanni beyond the Euphrates, both inside the frontiers of modern Syria. Farther again there were at least three great States, Babylonia in the south-east, Assyria across the Tigris, and the Kheta or Hittites in Anatolia. With these Thothmes had only diplomatic relations. The boundaries of these States or 'empires' no doubt varied continually, and it might be better to call them not States but spheres of influence. A letter from Mari throws light on the way in which they arose:

'In the matter of the message which my lord sent to the kings, in these words, "Come to the sacrifice of Ishtar"; I had the kings assembled at Sharmanekh, and I took the word as follows. I said, "There is no king who, of himself, is the strongest. Ten or fifteen kings follow Khammurabi of Babylon, the same number follow Rim-Sin of Larsa, the same number follow Ibal-pi-El of Eshmunna, the same number follow Amut-pi-il of Qatana, twenty kings follow Yarim-Lim of Yamkhad." '

The last two places are both in Syria, Qatana at Mishrifeh and Yamkhad at Aleppo.

Thothmes was a genius worthy to be ranked, according to Breasted, with Alexander or Napoleon. We are only concerned with his achievements in Syria and Palestine; in these two countries he conducted

seventeen campaigns, each lasting about six months during the dry season; the first was in the twenty-second year of his reign, the last in the forty-second when he was about seventy years of age; in some there was hard fighting, others were more like tours of inspection. Four campaigns by land secured the conquest of southern Syria as far as the Bekaa and Damascus, though without new bases on the coast he could not reduce the northern towns. In the fifth campaign a combined naval and land expedition took the northern ports and opened the door to the Eleutherus valley (*mod.* Nahr el Kebir) and Kadesh. This place fell in the sixth campaign and became the advanced base. After quelling revolts in his rear, Thothmes carried all before him; he invaded Naharin, took Qatana and Aleppo, and crossed the Euphrates at Carchemish into Mitanni, setting up triumphal tablets on both banks of the river. His ninth and later campaigns were spent in consolidating his conquests and in suppressing disaffection.

Parts of Syria and Palestine remained under Egyptian rule, precariously at times, for the next two and a half centuries. But little is known about the constitution of this 'empire'. Thothmes himself appointed one of his generals 'governor of the northern countries', and stationed garrisons in a few new strongholds which he built; the petty kings, whom he seems to have treated generally with humanity, were allowed to continue in office so long as they paid an annual tribute regularly; their sons were taken as hostages to Thebes to be educated in Egyptian ways; the Asiatic conquests were therefore rather a series of tributary kingdoms than provinces. As a general result Egypt and Babylon became closely linked and a close intercourse between the two countries by way of Syria grew up, both in diplomacy and commerce.

The Hittites, c. 1365 B.C. *to 1200* B.C.

For more than fifty years after the death of Thothmes, there seems to have been little change, but in the reign of Amenhotep IV Ikhnaton (1375 B.C. to 1358 B.C.), disquieting reports reached Egypt. These are contained in the famous collection of tablets from Tell el Amarna. They refer to the aggression of Hittites from Anatolia to the north of Syria and to the activities of a people called the Habiru in other parts, of whom nothing certain is known. Before the end of the fourteenth century the conquests of Seti I (*c.* 1313–1292) re-established Egyptian authority in the Hauran and in southern Syria, but the Hittites were too firmly ensconced in the north to be dislodged. Ramses II, Seti's

successor (1292–1225), fought a famous battle against them at Kadesh and advanced once more into Naharin, but he decided finally to recognize their power and made a treaty and defensive alliance with them in 1272, by which Egypt remained in possession of southern Syria. At the beginning of the next century Syria was overwhelmed by hordes from the north.

Culturally it might be difficult to say whether Egyptian influences in Syria or Syrian influences in Egypt were the more potent during the period just reviewed. For most of the time Egypt was dominant politically, temples to Egyptian gods were built in Syria and quantities of Egyptian productions were imported, but Syrian temples also arose in Egypt, Syrian motives invaded Egyptian art, and there were probably more Syrian immigrants in Egypt than vice versa. It is significant that official correspondence between the two countries, like that contained in the Tell el Amarna tablets, was conducted in the Babylonian language and written in cuneiform script, not in Egyptian hieroglyphics. About the local culture more evidence has come from a second collection of cuneiform tablets which has been found recently at Ugarit (*mod.* Ras Shamra), some in Babylonian, others in Hurrian and Phoenician. The last are the most interesting; they include fragments of epic poetry, stories of gods and heroes which anticipate by centuries the older parts of the Pentateuch, and confirm late Phoenician traditions which have long been dismissed as fantastic. In form they are important because the number of cuneiform signs used on them for writing the Phoenician language has been reduced to twenty-nine. This is clear proof that the first and hardest stage in the invention of an alphabetic script—the stage of discovering the smallest number of signs which would suffice to represent the consonants in a spoken language—had already been surmounted. There is reason to believe that a second invention, the selection of a set of symbols which could be written conveniently with a pen, was also made in this period, when papyrus was being largely imported into Syria; the earliest example of the Phoenician script which is the parent of our alphabet occurs on the sarcophagus of Ahiram from Byblus, which is dated about 1250 B.C.

The Assyrian Period, c. 1200 B.C. *to 612* B.C.

From about 1200 B.C. onwards for a generation, hordes from the north-east poured in waves over Syria and other parts of the Near East. The name of Palestine is derived from one of the invading tribes,

the Peleset or Philistines. Egyptian forces managed to dam the flood, but the Hittite power in the north of Syria was broken, and Egyptian power gravely shaken.

One by one, the petty dynasts of Syria were now speaking Aramaic and using a form of the Phoenician script. In the south, Phoenician and Canaanite dialects were spoken, and familiar names begin to crowd the stage. Tyre and Sidon touched a new zenith of prosperity; Hiram of Tyre, the friend of David and Solomon, dates from the tenth century, Jezebel, the wife of Ahab, from the ninth; Carthage was founded in north Africa about 822. Vast harbour works at Tyre, dry docks, an inner port by the island, breakwaters built on reefs to the south, date from this time.

Invaders continued to arrive from Egypt, Assyria, and Babylon. Fragments of statues of Sheshonk I (*c.* 945–924) and Osorkon I (*c.* 924–895), which were offered by kings of Byblus, show that Egypt was still respected in Syria, but the Assyrians were the most frequent and most formidable of the invaders, from the ninth century to the end of the seventh. The petty States could make little headway against the Assyrian military machine. One heroic exception is on record. About 854 B.C. a number of Syrian States combined to resist Shalmaneser II, to whom Aleppo and Tyre had already yielded. The list of confederates known from an Assyrian inscription reveals the sub-division of the country and its foreign connexions at this time: Damascus, 1,200 chariots, 20,000 foot; Hamath, 700 chariots, 700 horses, 10,000 foot; Ahab of Israel, 2,000 chariots, 10,000 foot; Osorkon of Egypt, 1,000 foot; Que in Cilicia, 500 foot; four north Phoenician cities; Gindibu, an Arab sheikh, 1,000 camels; Ammon, 10,000 foot. The armies of Syria and Assyria met at a place called Karkar—then a small fort among orchards of fig-trees, now only a *tell* on the Orontes about 5 miles south of Jisr esh Shoghur—and Shalmaneser was temporarily checked. But the Syrian alliance was short-lived, and later kings of Assyria, attacking the States one by one, incorporated almost the whole country in their empire. Their 'frightfulness', which has become legendary, led many to sue for the best terms they could get, though not perhaps without long debates and vacillations such as those which are described in the Old Testament. During the eighth century and most of the seventh, the Assyrian Empire in Syria possessed an organized administration with Assyrian officers in charge of important districts, and left many traces on local culture.

Babylon and Persia, 612 B.C. *to 332* B.C.

In 612 Nineveh, the capital of Assyria, was overthrown by the Babylonians and Medes. After a brief Egyptian interlude, in which Pharaoh Necho advanced to the Euphrates, Syria fell into the hands of the Babylonian Nebuchadnezzar. A siege of Tyre which held out for thirteen years (*c.* 587–574) is the most notable event of the Babylonian period. In 539 Babylon in turn was conquered by Cyrus the Persian, and Syria became a part of the vast Persian Empire which stretched from the Hindu Kush to the Aegean.

In the time of Darius (521–485) Syria formed part of the fifth satrapy of the Persian Empire. This included also Palestine and Cyprus. The whole satrapy was assessed annually at only 350 talents of silver, from which it would seem that it was regarded as one of the poorer parts of the empire, for Assyria and Babylonia contributed 1,000 talents, Egypt 700, and Cilicia 360. But Babylonian trade enriched Damascus and the Phoenician ports, and Phoenician war-ships were a mainstay of the imperial Persian fleet. They helped in the conquest of Egypt (526), and in the subjection of the Ionian cities of Asia Minor (496–494), but suffered a decisive defeat with the rest of the Persian fleet at the hands of the Greeks at Salamis in 480, from which Persian sea-power never fully recovered.

Aramaic became the official language in this part of the empire. Communications were vastly improved and the caravan trade routes were organized, but the Syrian cities were generally left to manage their own concerns. Old towns like Arad (*mod.* Ruad), Byblus, Tyre, and Sidon appear to have been constitutional monarchies under the rule of hereditary kings. In 346 the Sidonians led a rebellion against the king, Artaxerxes III, which resulted only in the destruction of their own city, but in general the Phoenicians seem to have served the Persians loyally, and the Syrians of the interior may have done the same. An imperial treasury at Damascus is mentioned, but it is not known whether this was the capital of the satrapy.

In the first half of the last millennium B.C. Phoenician art faithfully reflects the various foreign influences to which the country was then exposed. At one time Egyptian influence is uppermost, at another Assyrian; some Persian architecture has been found at Sidon and in the north Greek influence was strong, increasingly so in later days. Long before the time of Alexander the Great, Greek pottery was being imported into the country, the coins issued by native rulers were Greek in character, a new type of Greek sarcophagus ousted

the old Egyptian form, and there were Greek towns on the coast such as Posidium (*mod.* Basit, p. 57). Plato had little respect for the Phoenicians; in one place he speaks of the love of money which is their ruling passion, in another of the 'habit of craft, which evil tendency may be observed in the Egyptians and Phoenicians, and many other races, through the general vulgarity of their pursuits and acquisitions, whether some unworthy legislator of theirs has been the cause, or some impediment of chance or nature'. But it should be remembered that the script in which Plato wrote sprang from the vulgar pursuits of an acquisitive Phoenician.

The Cities

Throughout ancient times, and also later, there is rather marked distinction between the population of the countryside and of the cities. At first each habitable area is occupied by a tribe or group of related or associated tribes living on the land either as shepherds or cultivators of the soil in villages with water supply and defensive position, under the very simple, and usually patriarchal, rule of a chief and a council of elders. Cities, as elsewhere in the Near East, came into being to serve more specific needs which were of several kinds, though some of the greater cities served more than one of them.

A *fortress-city* occupied a place of natural security and became the refuge, rallying-point, and the political capital of such neighbourhood as it could defend. It was usually in the hands of a military chief and governed by force. A *bazaar-city* at the economic centre of a natural district served its material needs, and being usually at a junction of routes, exchanged commodities with neighbouring districts or similar trade-centres at a distance. A *caravan-city* was a bazaar-city which conducted long-distance traffic by periodical convoys. The type is best illustrated by the oasis-communities within desert areas, or on their margins, which bred and owned the transport animals, lodged and defended the caravans that passed through them, and throve by taking tolls. Most trading-cities were governed by a close corporation of leading merchants, though they sometimes fell into the power of a war-lord. A *sanctuary-city* satisfied needs not material but spiritual, by the maintenance of a place of worship, often supplemented by an oracle or a healing-shrine, which attracted votaries from afar, and enriched the priesthood which administered the holy place.

In Syria, Hamath and Kadesh were ancient fortress-cities and became local capitals; Aleppo was a typical bazaar-city; the Phoenician

cities of the coast illustrate the special case of traffic between inland and oversea markets; Damascus was both a sanctuary-city and a bazaar-city, like Edessa (Urfa) and Heliopolis (Baalbek). Bambyce or Hierapolis (Membij) was a sanctuary city.

II. The Greco-Roman Period

Alexander and the Seleucids, 332 B.C. *to 64* B.C.

Between 332 B.C. and 323 B.C. the Greek and Macedonian armies of Alexander destroyed the power of Persia. Tyre was the only city on the Syrian coast which resisted the advance of Alexander, and in the interior he met with opposition only from the regular Persian army. In the period which followed Alexander's death the district south of the Eleutherus river (Nahr el Kebir), known as 'hollow Syria', including Lebanon and Anti-Lebanon, fell to the share of Ptolemy I, king of Egypt, while the country north and east was taken by Seleucus, the Macedonian Greek who ruled Mesopotamia and built up a Greek empire in Asia; in the second century the whole of Syria and Palestine passed into the hands of the Seleucid dynasty. Seleucus and his descendants, Macedonians like the Ptolemies, were men of exceptional vigour and intelligence, who wrestled manfully with the superhuman task of consolidating an unwieldy territory which stretched at one time from the Hindu Kush to the shores of Asia Minor: Syria lay in the centre of their realm and it was the country which remained longest in their power.

The Seleucids made Greek civilization the basis of their empire. When they occupied Syria there were a few ancient cities, once the capitals of little States, some of them much decayed; those on the coast engaging in commerce or manufacture and already familiar with Greek products and Greek ways; those inland as often as not gathered round holy places or commercial bazaars. The larger centres were connected by tolerable roads—the Persians had seen to these—but the vast mass of the population lived in compact villages, recognizable to-day only as tiny *tells* or mounds, cultivating the land communally after the manner of their ancestors, and, in all probability, paying exorbitant dues to religious and secular overlords. Such were the conditions in the Syrian districts which the Seleucids set about developing. They built a number of new cities (Fig. 36): in northern Syria there were four of the first rank, Antioch named after Antiochus, the father of Seleucus, Seleucia in Pieria after Seleucus himself, Apamea on the Orontes after his wife, and Laodicea after his

sister. Antioch (Antakya) and Laodicea (Latakia) still survive: Seleucia, which was the port of Antioch, and Apamea, which was originally an arsenal and military station with 300 stallions, 30,000 brood-mares, and numbers of elephants in the royal stables, are now deserted (Plate 12). Some of the old cities were refounded and given new names; Aleppo became Beroea, Hama became Epiphania, Carchemish became Europus. The countryside was chequered with Macedonian



FIG. 36. *Hellenistic Syria. Greek or semi-Greek cities are named in capitals*

names and Macedonian military stations. Most of the sites were so well chosen and most of the cities entered upon such a long period of well-being that all the Macedonian buildings were rebuilt in later periods, and now lie buried beneath deep deposits.

Only at one place in Syria are there the complete ruins of an ancient town like Pompeii in Italy. This is a small place on the Euphrates called Dura-Europus (*mod.* Salahiyeh), about 20 miles north of the old city of Mari; it has been deserted since the third century of our era, and has been admirably excavated within the last twenty years (Plate 65). Dura was a river-port for the east-west caravan trade and in itself a place of third-rate significance, but it has yielded informa-

tion which cannot be found elsewhere. Remains of the Macedonian walls and the Macedonian keep are still to be seen. The town was settled with Macedonian soldiers who were given parcels of land in the surrounding district, ground which passed by inheritance and returned to the Crown if there were no heirs. The town had a regular constitution with a council and magistrates, but there is no trace of a popular assembly: it had a bank treasury and an office for registering and authenticating private contracts, temples for the new gods as well as the local gods of the original inhabitants. Descendants of the first Macedonian families survived long after the disappearance of the Seleucid dynasty, but the European element naturally became more and more diluted.

A number of causes contributed to the downfall of the Seleucids: their expulsion from Asia Minor by the Romans (189 B.C.), the restiveness of the cities on the coast and the rise of independent States in the south—including the Jewish nationalist State of the Maccabees—and the Nabatean Arab power centred on Petra which spread ultimately to Damascus and controlled the caravan routes both from the Persian gulf and from southern Arabia. More serious than these were internal divisions in the royal house caused by rival claimants to the throne. The latter half of the second century and the first half of the first century B.C. was a time of chaos in Syria. Tigranes of Armenia swept down from the north, the Parthians overthrew the Seleucid power in Mesopotamia and threatened Syria from the east, while a host of petty tyrants, priest-kings, and brigand-chiefs fished about for what they could catch in the muddy waters.

Peace and order were finally established by Rome when the country was annexed by Pompeius in 64 B.C. As far back as 189 the Romans had fought and defeated the Syrians at Magnesia on the Maeander in Asia Minor, and deprived them of their territories north of the Taurus, but much of Asia Minor remained long under local dynasties. It was the spread of Parthia after the loss of Iran by the Seleucids that compelled Rome to intervene directly in Syria and to organize a defensive land-frontier from the coasts of the Black Sea to Egypt.

The Roman Province of Syria

Under the Roman Empire a new Syria arose upon the foundations which had been laid by the Seleucid kings and their predecessors. Roman Syria was governed first by proconsuls and later by imperial 'legates' whose capital was at Antioch (Antakya), which is now in Turkey. To these were subject the minor provinces of Palestine

(finally annexed in A.D. 44) and, after the first century A.D., northern Mesopotamia, including the Jezireh and adjoining regions. Thus in the Roman period the areas comprised by the French mandate were for the first time in history effectively united in one administrative group.

Syria was the key to the defence of all the Asiatic provinces of the empire. The security of its western frontier was guaranteed by the

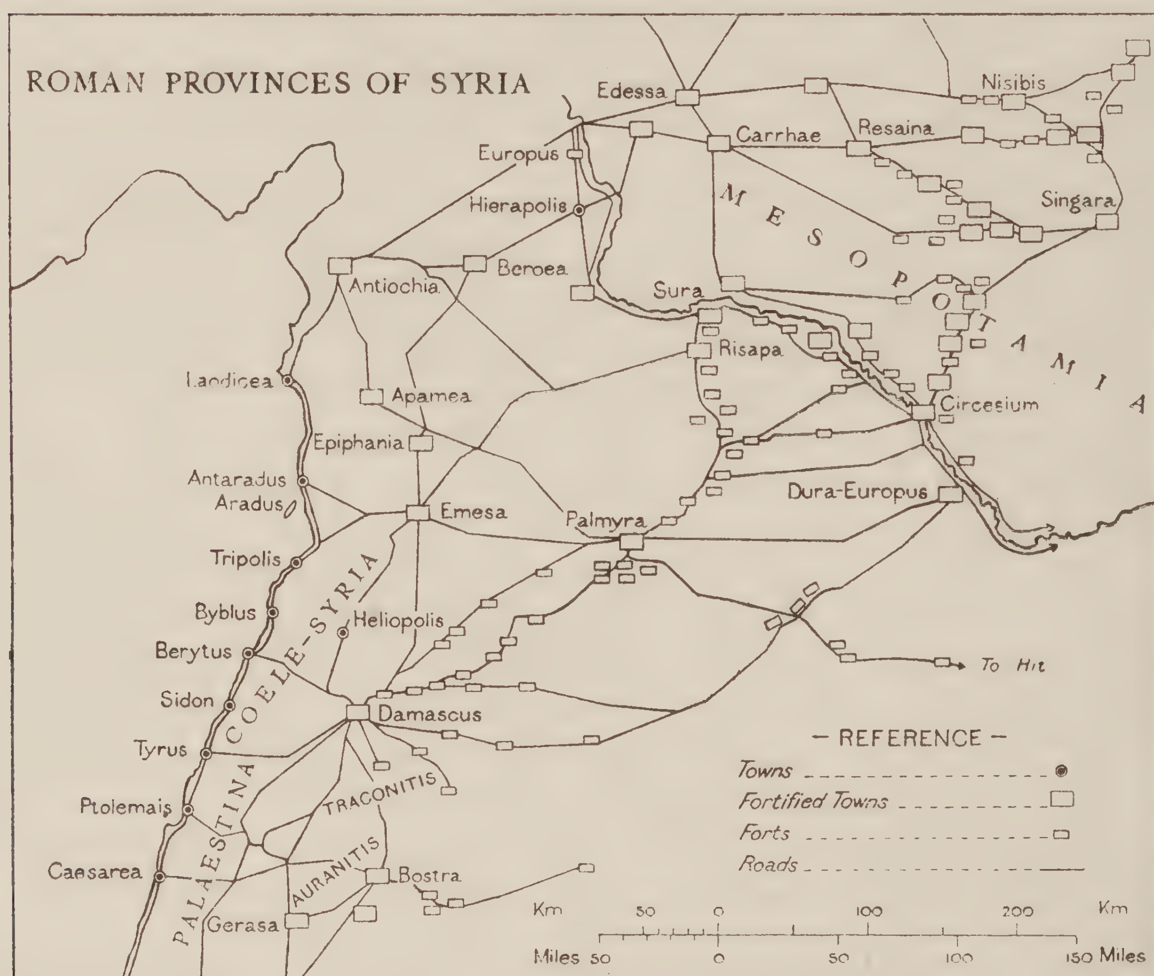


FIG. 37. *The cities, roads, and fortresses of Roman Syria*

imperial command of the sea, which was unchallenged for more than six centuries. But the land frontiers, which consisted of the upper Euphrates and the Hamad, were constantly threatened by formidable military powers in Mesopotamia and Iran, first Parthians and later (third century A.D.) the Persian Sassanid dynasty. The measures taken to defend the land frontiers developed from century to century. In the early empire the policy initiated by Augustus (27 B.C. to A.D. 14) was to keep a strong mobile army of three or four legions based on Antioch and to weaken the Parthian kingdom internally by palace

intrigues. There was a formal treaty of friendship between the two Powers which was seldom interrupted. But in 113 A.D. this plan was abandoned by Trajan who made open war on Parthia and annexed all Mesopotamia. These conquests were given up on his death by Hadrian (117), but later in the century the northern part of Mesopotamia—mainly the area west of the Khabur—was again annexed and retained until 364. By this annexation all the advanced bases of the Parthian kingdom for an invasion of the west were placed under Roman control. Meanwhile frontier defence was becoming more static.

The Limes

Eventually the Romans organized an elaborate zone of defence in depth bristling with strong points which were interconnected by a network of roads (Fig. 37). The system was started in the second century A.D., much developed at the end of the third by Diocletian, and strengthened again by Justinian in the sixth: the new *limes* was not a Chinese wall nor a Maginot line, but a deep zone composed of a number of lines in different directions based on the natural features of the country. The principal line ran from Bostra in the Hauran in a north-easterly direction to the Tigris, touching Damascus, Palmyra, Sura on the Euphrates, Circesium on the Khabur, and Singara (Beled Sinjar). It made use wherever possible of low hills, partly because these enabled the defenders to see farther, partly because they attracted clouds in spring and autumn and increased the water supply. The line cut diagonally across the main zone through which nomads have driven their flocks from time immemorial, from the steppes which are green only from December to March to the hills and highlands of Palestine, Syria, Armenia, and the upper Jezireh; in sections, but only in sections, new roads coincided with old caravan routes. In the north, especially in marshy country, the roads were paved with stone blocks (Plate 64) and varied in width from 18 to 35 feet; earthen roads with kerbs about 40 feet apart were commoner in the desert—for example, the roads from Palmyra to Sura, and from Palmyra to Hit; in the south they were merely beaten tracks. The roads ran straight if possible, but followed lines where water and good grazing were to be found. Forts—*castella*—were built at regular stages about 30 Roman miles apart, with intermediate signalling stations and watch-towers from 10 to 20 miles from each other. The wells were either inside the forts, or near them, and were carefully guarded; there were also cemented

basins and reservoirs, both open and covered, and conduits leading from springs into the forts (Plates 67–8). The nomads themselves no doubt benefited as much as any one from these arrangements.

In the same period great changes were made in the composition and distribution of the armed forces of the province. In addition to the legionary forces stationed in or near the larger centres of population, light 'auxiliary cohorts' of cavalry were employed for work on the frontiers, the Palmyrenian and Ituraean units being famous. Both legionary and auxiliary forces were recruited in Syria, and the old plan of subsidizing friendly tribes on the frontier was never abandoned.

These measures could not prevent large-scale attacks from beyond the Euphrates, but so long as the desert forts were properly manned, they protected the country from the ordinary Arab raiders. Moreover, for nearly three centuries no foreign invader set foot in Syria until the Parthian dynasty in Mesopotamia was replaced in the third century A.D. by a revived Persian kingdom, which was both nationalist and imperialist. Thenceforth costly and indecisive invasions and counter-invasions became frequent.

Yet after the division of the Roman Empire into two halves by Theodosius (395), the Byzantine emperors maintained their control of Syria till the seventh century A.D.

Palmyra

One strange incident in the history of Roman Syria in the third century is concerned with Palmyra, a city which had a somewhat anomalous position in the Roman Empire. Palmyra, in an oasis 150 miles north-east of Damascus, retains in the modern name *Tudmur* the pre-Hellenic *Tadmor* (Plate 66). It is not recorded in history before 42 B.C. and its earliest inscription is of 9 B.C., when it was already an important caravan-city between Parthia and Roman Syria, with a characteristic mixed culture, an Aramaic-speaking Arab population, and a famous cult of the sun-god. Besides organizing caravans it produced salt from local deposits. Dura (above, p. 114) was one of its ports on the Euphrates. Though nominally subject to Rome since A.D. 17, its local autonomy was jealously guarded, but it was given the status of a Roman 'colony'—the highest civic dignity of the empire—early in the third century and leading citizens adopted Roman names. Odenath of Palmyra became a Roman senator about A.D. 234, and his grandson, of the same name, had consular rank in 258. In a period of crisis, when the imperial defence was collapsing



PLATE 66. *Palmyra, looking towards Tomb valley*



PLATE 67. *Roman forts at Kasr el Heir, rebuilt by Omayyads*

PLATE 68. *Roman reservoir at Harbaka, near Karyatein*

in 260, Odenath organized resistance to Persian invaders; after his death in 266 his widow Zenobia dominated all Syria and Arabia, occupied Egypt and large parts of Asia Minor, and assumed imperial titles. But in 270 the Emperor Probus recovered Egypt and his successor Aurelian, attacking through Cappadocia, defeated Zenobia at Emesa. Palmyra was destroyed after a siege in 272, but reappeared as a frontier fort under Diocletian and as a Christian bishopric. Later, under Moslem rule, it remained a fortress and caravan-city, but faded when overland trade-routes declined in importance after the fifteenth century (p. 132).

Roman Cities and Towns

Sheltered by the Roman power, the Syrians enjoyed a longer period of continuous prosperity than ever before or since, though for a short time after the death of Mohammed the country reached a greater peak of power (p. 127). It is to this Roman period that the vast majority of the ruins which cover the land belong, and it is during these centuries perhaps that the native Syrians have exercised most influence on the world.

There were only eight cities, a few years ago, with a population of more than 20,000 in the whole of Syria, and it may be doubted whether there were more than twice as many cities of the first rank in Roman Syria, though the population was much greater: it seems probable that Antioch by itself contained more people in the fourth century than the combined populations of the three largest cities to-day, Damascus, Aleppo, and Beirut; Apamea, which is now deserted, contained about half a million people. Then, as now, the Syrian population was mainly rural. But the new Roman cities were far more splendidly appointed and covered much more ground. Colonnades more than 4 miles long ran through the centre of Antioch, enabling the inhabitants to go about their business and their pleasure protected from the rain in winter and the sun in summer; ruins of similar colonnades can still be seen at Palmyra, Damascus, Apamea, and elsewhere (Plate 66). Aqueducts brought a plentiful supply of water to public and private baths, to fountains and gardens. The other civic buildings, theatres, hippodromes, and stadia were on the same scale; the temples in the first half of this period were stupendous in size and covered with an exuberant wealth of carving; the churches, after the time of Constantine, glittered with gold and mosaics.

Some of the Phoenician cities, such as Tyre and Aradus, long

retained much of their old character. They were built in confined areas and the houses were many stories high, like those in southern Arabia to-day. The stench of the dyeworks for which it was celebrated made Tyre, as the Greek geographer Strabo says, unpleasant to live in, but brought wealth to the people.

Old religious centres and sanctuary-cities once ruled by the high priests, such as Emesa (*mod.* Homs), Heliopolis (*mod.* Baalbek, Plate 62), Hierapolis Bambyce (*mod.* Membij), presented a third type which had a Christian analogue in the great foundation which rose round the pillar of S. Simon Stylites at Kalaat Siman, north of Aleppo.

Beirut (*class.* Berytus), which was refounded by Augustus with discharged legionaries as a Roman colony (*c.* 25 B.C.), became the home of the most distinguished school of law in the empire; and law was taught in Latin until the end of the fourth century A.D. Two famous jurists, Papinian and Ulpian, were natives of Syria.

Industry and Commerce

The wealth of the cities came largely from industry. Tyre and Sidon were famous for glass-works as well as dyeing, the special sand used in the former, and the mollusc from which Tyrian purple was obtained, being close to hand. Syrian woollens and silks, the latter made from imported material, also had a large market; they were made in most of the coastal cities, Tyre, Sidon, Berytus, Laodicea (Latakia), and Byblus; probably in the interior too at Aleppo, Emesa, Epiphania, and Damascus. Laodicea exported wine; Damascus, olives and fruit preserves. The Lebanon was still heavily forested, and ships were still built in the Phoenician ports, though the chief naval station was at Seleucia, the port of Antioch. Syria has no metals to speak of, but Damascus has long been famous for its metal-work; arms factories were established here by Diocletian as well as at Antioch and Edessa.

Another great source of wealth was the caravan transit trade. In the ancient world there were two main routes, one from the head of the Persian gulf and also overland from Iran, by Babylon or Mesopotamian Seleucia, up the Euphrates and across the Hamad to the Phoenician ports of Syria, and the second by the Red Sea either to Egypt or through Petra to the Syrian coast. The struggles between Egypt and Seleucid Syria had often been caused by the desire to monopolize these routes. Rome inherited the task of organizing and protecting both of them; land and sea were complementary ways

of transport and under the empire Alexandria and the Syrian ports supplemented one another.

This transit trade was the sole reason for Palmyra's prosperity and added a source of wealth to the sea-ports. Palmyra—midway between Damascus and the Euphrates—owed its wealth to the skill with which its people handled the difficult problem of desert transport. Land transport was generally regarded as a safer method but more expensive than transport by sea; but the conduct of caravans across the desert demanded special powers of organization and diplomacy, and it was richly rewarded. This desert trade was transit traffic of luxury goods coming from India and the Far East. The price of goods is said to have increased a hundredfold between India and Rome during the Roman period: the Roman chronicler Pliny estimates the eastward drain on Roman gold at a hundred million sesterces a year: 'so much', he adds, 'do we waste on luxury and women'. Only the costliest articles, jewels, sandalwood, spices, drugs, silks—real Chinese silks have recently been identified at Palmyra—would stand the charges. There were, of course, rival routes from the Far East to Europe, but for two or three centuries Syrian merchants seem to have captured much of the trade, for they handled it not only in Syria but on the European side also. Already in the Hellenistic period there had been guilds of merchants, shipowners, and warehousemen from Tyre, Beirut and Latakia, at Delos in the Cyclades; in the imperial period they spread over Italy and Gaul. Syrian slaves and Syrian soldiers were met all over the Roman Empire, but Syrian freemen were able to take care of the interests of Syrian producers as well as of the transit goods, doing on a large scale what the modern Syrian pedlar does feebly in South America.

Way of Life

The industries depended in a measure, as we have seen, on local products which came from the villages where most of the people lived. The Roman policy of urbanization which developed in the second and third centuries brought these villages into closer relation with the towns. Large territories, which were neither imperial estates nor owned by an ancient religious community, were attached with the villages which they contained to some town, and thereby gradually fell into the hands of a few large landowners who lived in the towns. But though the peasants were sometimes harshly exploited as in later days, taxation was light until the third century A.D.

Numerous ruins to the east of the richer lands show that, even in the Hauran (*Auranitis*) and the Jebel Druse (*Traconitis*), the old villages were extraordinarily well built. Good workmanship was not confined to the towns; the village houses are solidly constructed of well-squared blocks of stone, the rooms are spacious, and upper floors common. The irrigation which is absolutely necessary in many parts of the country was, in all probability, much better controlled then than now; the culture of vines and olives was probably more advanced. The prosperity of the peasants is shown by the size of their holdings: the Syrian unit in the taxation system introduced by Diocletian was 20, 40, or 60 acres of ploughland according to quality, or 5 acres of vineyard, or 225 olive-trees (450 in the mountains). Each of the bigger villages had its own *comarch* or headman and a council, and enjoyed a measure of self-government subject to municipal or provincial control. Aramaic was spoken in the villages, but the inscriptions are generally in Greek, which was the language of the towns; there was no doubt a wide gulf between the well-to-do townsman and the countryman, but the countryman had some share in the civilization of the times.

Religion

In the religious sphere, Syrian paganism is revealed under two aspects. On the one side there is an astounding survival or renaissance of the most primitive and revolting local cults, which were carried all over the Roman world by Syrian emigrants, soldiers, and slaves. An inscription in verse to the goddess of the Syrian Hierapolis has been found in the north of England near Hadrian's Wall, and over a hundred inscriptions have been discovered there in honour of an obscure Baal called Jupiter Dolichenus; he appears with the old emblems of Teshub the god of the Hittites and Hadad the god of the Aramaeans, but his name is not mentioned by any classical writer, though his cult may go back to the period of Tell Halaf. The animals about which the King of Mari wrote, the white horses, the living lions, and fish, were still sacred. Some of the old sites are venerated to this day: at Afkeh, for example, the home of a cult of Adonis and Aphrodite which Constantine suppressed as immoral, there is a sacred tree still hung with votive rags. In the Roman period human sacrifice, sacred prostitution, and various obscene rites were practised at the great Syrian sanctuaries.

This is one face which Syrian paganism presented to the world, but there was another. In the same great sanctuaries there was also

an educated clergy learned in Babylonian researches into the heavens and ready to 'expatiate upon the nature of the divine beings and on the meaning of traditions inherited from remote ancestors. . . . They had their mysteries and their initiates to whom they revealed a wisdom that was above the vulgar beliefs of the masses'. Their meditations led them to the belief in one supreme god, eternal, most high, most great, invincible—the epithets occur on many inscriptions—but residing in a distant heaven. It was this aspect of Syrian religion which appealed to the better class of Romans and led two Roman emperors before Constantine to look to Syria—Elagabalus to Emesa and Aurelian to Palmyra—for a notion of deity to take the place of the Capitoline Jupiter.

From the age of the apostles, Christianity spread far more quickly in central Syria than in Palestine or Phoenicia. Antioch was the place where 'Christians' were first so-called, and the oldest known Christian ruins in the Near East are the remains of a church at Dura-Europus dating from the third century A.D. Antioch was the site of one of Constantine's most splendid churches, and it is still the title of five patriarchs, though none of them live there. The ruins of an immense number of churches mostly of the fifth, sixth, and seventh centuries have been found in Syria, and outside Syria several native Syrians held high rank in the Church; one was Archbishop of Paris and five were elected Pope between A.D. 685 and 741.

Decline of the Byzantine Empire in Syria

Before the end of the fifth century three rival Churches, corresponding with different political sections, were firmly established in the country. Of these the Nestorians, who took their name from Nestorius, Patriarch of Constantinople A.D. 428–31, were strongest in the East; most of them withdrew later to Persia and from Persia they sent missionaries to India and China; they are represented to-day in the country by the Assyrian Church (p. 163). The next to break away were the Monophysites, who refused to accept the decisions of the Council of Chalcedon (A.D. 451), and founded what may be called the National Church of Syria, known as the Syrian Orthodox. The third body adhered to the (Greek) Orthodox Church of the empire and were scornfully nicknamed Melkites or 'King's men'. It was the division between Melkites and Monophysites which paved the way for the Mohammedans. The Monophysites were persecuted as heretics by the Emperor Justin I, A.D. 518–21; his successor Justinian was induced by his wife Theodora to adopt

a more tolerant policy for a time, but after her death the persecution began afresh and continued. Consequently, when the Arabs invaded Palestine and Syria, the Monophysites, who formed a majority of the native population, joined hands with the invaders. Only in thoroughly Hellenized cities like Jerusalem and Caesarea did the Arabs meet much resistance; Damascus had capitulated in A.D. 635 before either Jerusalem or Caesarea had fallen.

A Persian interlude, brief but significant, preceded the capitulation of Damascus to the Arabs. The last of many wars between the Byzantine Empire and Persia led to the capture of Antioch and Apamea in 611 by Chosroes II; in 614 he took Damascus; in the next year Jerusalem was sacked, the Church of the Holy Sepulchre burnt, and the Cross, its most precious relic, carried off to Persia. A few years later, in 623, Heraclius, the Byzantine emperor, retorted with the destruction of Urmia, Zoroaster's birthplace, and the extinction of the sacred fires. In 628 Chosroes was murdered, and his successor was glad to make peace with Heraclius and to end a struggle which drained the resources of both empires.

III. Arab and Turkish Rule

During the sixth century the steppes to the east were flourishing. Walled cities like Risapa or Sergiopolis (Resafa), about 20 miles south of the Euphrates, had risen in regions which are now desolate; huge caravans came from the east and the south (Fig. 37). Peace and prosperity had been established by the organization of the imperial *limes* (p. 117), but the control of the area which separated the Byzantine and Persian empires was largely devolved at this time on the heads of two subsidized tribes, the Ghassanids and the Lakhmids. The Ghassanid chief was created a Byzantine 'patrician' just as Indian princes to-day are given orders of knighthood; he controlled the border country from the northern frontier of Syria to the gulf of Akaba. The seat of the Lakhmid vassal of Persia was at Hira, a place west of the Euphrates and about 80 miles south of Baghdad. Both were Christians and both had intimate relations with the Arab tribes to the south, among whom both Christianity and Judaism had spread.

Rise of Arab Power

Towards the end of the sixth century these buffer States decayed and the power which their rulers had exercised fell into the hands of a

number of more or less christianized Arab sheikhs who continued to provide levies for the defence of the frontier.

A new trading-centre had grown up recently at Mecca through the business enterprise of an exceptionally gifted tribe called the Koreish, but the prosperity of this tribe, which traded between southern Arabia, east Africa, and Syria, depended like the old commercial centres on the security of the caravan routes; Meccan caravans on their way to Damascus or Gaza used to pass regularly through the imperial customs stations at Akaba, Petra, Bostra, and elsewhere when Mohammed was a young man. No sign of impending change was visible. Mohammed himself and his first adherents were Koreish traders in a small way of business who were reduced to great straits when they were driven from Mecca by the opposition of the wealthier merchants. Medina, where they settled in A.D. 622, was a convenient spot from which to intercept the Meccan caravans on their way to and from the north, and it was to get, first, the necessaries of life and, secondly, other good things and luxuries that the earliest Moslem forces were organized to waylay and pillage their fellow tribesmen. They were so successful that in 629 Mohammed dispatched an expedition farther afield, against southern Palestine; it was, however, heavily defeated east of the Dead Sea at a village called Muta. Mohammed died in 632.

The first Moslem expedition to cross the frontier of modern Syria started as a marauding raid of the old type, sent in 634, when Abu Bakr was caliph, to pillage the former Lakhmid territory round Hira; it was led by Khalid el Walid, and three other expeditions were dispatched at the same time against southern Palestine to avenge the disaster at Muta. Khalid was unable to take a fortified town and contented himself with plundering the country round Hira and extorting a ransom from the town. From Hira he pushed north, and then, making a brilliant dash to the west through Palmyra, he appeared on 24 April 634 before the walls of Damascus. In the meanwhile the Emperor Heraclius had concentrated a large army south of Damascus to deal with the forces in the south of Palestine. Khalid succeeded in eluding this army, made contact with the Moslems in the south, and on 30 July inflicted a bloody defeat on the Byzantines at Ajnadain, between Jerusalem and Gaza.

Islam

A new element had entered history. The age of the professional armies of Rome and Persia was at an end. They were being over-

whelmed by nomadic bands which, under the lure of loot and the inspiration of a new faith, rapidly swelled in numbers from hundreds to thousands and tens of thousands. The religious appeal of Mohammed owed much to its simplicity in a world overburdened with religious controversy, and perhaps as much to its insistence on universal brotherhood in a society in which the man of the people had hitherto been bound hand and foot by an elaborate system of caste. The five essentials of the faith were: surrender (*islam*) to the will of God revealed through the prophet, prayer, fasting, charity, and pilgrimage. This system was administered after the founder's death by a popularly elected 'successor' or *khalifa* (caliph), who chose his own helper or *wazir* and in fact nominated his own successor. Universal military service was cardinal, and supplied the fighting forces of the new power by the voluntary enlistment of the converted. This opened to the former subjects of the Byzantine Empire the road to personal freedom in place of their serf-like position in the old order. To those who would not be converted there was offered 'submission', which meant self-government subject to the payment of tribute, or 'suppression'. By submission the subject peoples found themselves no worse off than in the old order, and continued to live according to their ancient customs, upon which the canon law of Islam was simply superimposed.

The Arab Conquest

With this simple basis and procedure Islam spread rapidly. Abu Bakr died a few weeks after the defeat of the Byzantines at Ajnadain. Omar, his successor as caliph, a man of great energy, determined to attack Syria in force. Khalid was placed in command and advanced from the south. The Byzantine army, which had withdrawn to Damascus, moved to meet him east of the Jordan, and in January 635 battle was joined at Fahl, which lies in the Jordan valley east of Beisan. The Moslems were victorious and pressed on north, defeating the Byzantine army again in February at Merj es Suffar, 20 miles south of Damascus. A fortnight later Khalid was once more before the gates of Damascus, but the city held out until September, when it capitulated with the complaisance of the authorities, civil and ecclesiastical. Baalbek, Homs, and Hama fell one after the other; 'the people in Sheizar went out to meet him accompanied by players on tambourines and singers and bowed down before him'. But the Byzantine army rallied, and Khalid was obliged to evacuate all these places, and Damascus as well; he fell back to the broken ground

of the Yarmuk valley near Deraa. The Byzantine army followed through the Bekaa and, avoiding Damascus, crossed the Jordan to join battle. The fighting was long and bitter, but the Byzantine leaders were deserted by their Arab auxiliaries, and Khalid finally won a crushing victory on 20 August 636. Syria was at his mercy, the cities reopened their gates, the people of Homs declaring 'We like your rule and justice better than the oppression and tyranny under which we have been living'. A few places only held out, like the little island of Ruad (p. 61), which was not taken by the Moslems until 650.

Byzantine rule in Syria crumbled primarily because of its general unpopularity, and because of the defection of the Arab auxiliaries. The resources of the empire had been strained by the Persian and other wars; the subsidies to Arab sheikhs were in arrears; the religion of the majority was looked on with disfavour in Constantinople even if it was no longer persecuted, whereas the Arabs who were Moslems were not asking people to change their faith. The Syrians felt that they had to choose between two masters, both greedy, and they chose the master with whom they felt best able to cope. For the next hundred years, it looked as if they had been wise.

Syria was fortunate in falling under the administration of Muawia. Unlike the early converts to Islam, Muawia belonged to one of the wealthiest families in Mecca, the Omayyads. His father, Abu Sufian, was for long Mohammed's strongest opponent; he himself was full of the genial liberalism, the *hilm*, for which the Koreish were famous, a typical sheikh of pleasant address with the simple and familiar manners which Syrians like. He was appointed governor of Palestine and Damascus in 639. When the caliph Omar was stabbed in 644, Othman, his successor, who was also an Omayyad, extended Muawia's command to include northern Syria and Mesopotamia. In July 655 Othman also was murdered, and Muawia displayed his bloody garments in Damascus and demanded vengeance on his successor, Ali. There followed a long and indecisive war against Ali, but in July 660 Muawia had himself proclaimed caliph at Jerusalem, and six months later Ali was assassinated at Kufa in Mesopotamia. These two events left Muawia politically supreme. He naturally chose Damascus as the capital of the caliphate; it was the meeting-place of many roads, within easy reach of Egypt, Mesopotamia, Iraq, and the Hejaz, surrounded by a fertile oasis, a city with an ancient history and one where he had himself governed for the last twenty years; it remained the capital of the Moslem Empire until the death of

the last Omayyad caliph in 750. For these ninety years, and only for these, all Syria was united under rulers whose capital was in the country; the period A.D. 660–750 is the most brilliant in its history.

Muawia introduced little change into the administrative system under which Syria had been governed. He maintained in charge of the exchequer the Christian Ibn Sargun, who had served in a similar office under Heraclius. The taxpayers had to find the money for his many expeditions against the Byzantine Empire, but the officers in charge of military stores, munition works, and naval building yards were Christians; Greek continued for some decades to be the official language in government offices, and not until the caliphate of Abd el Malik (685–705) were gold coins issued with Arabic inscriptions. Muawia carried religious tolerance so far that he prayed in the holy places at Jerusalem, in the Calvary chapel, Gethsemane, and the Virgin's tomb, and rebuilt the great church at Edessa (*mod.* Urfa), at his own cost, after an earthquake. The chief friends of his son Yazid were two Christians, the son of Ibn Sargun and the Taghlibite poet Akhtal, who had written satirical poems on the heroes and ritual of Islam; Yazid's mother was a Christian who may have remained such at Damascus.

The Empire of Damascus

The Arab Empire became centred at Damascus when Moslem power had already overcome Ctesiphon in Mesopotamia, the Sassanid capital, as well as western Persia and Egypt, and when it had already destroyed the Byzantine fleet (655). Constantinople was attacked in 669 and 674; Kairwan in Roman Africa (Tunisia) was founded in 670; Bokhara was taken in 673 and Samarkand a year later. Carthage fell in 696, Spain was invaded in 711. Islam was dominant from the Atlantic across north Africa and the Middle East to central Asia. The great trade-routes of Africa and Asia were in the hands of the Caliph at Damascus; for the time being his sea-power dominated the Mediterranean.

Throughout this period communications were maintained in good condition and bridges were built; there are irrigation works in the Syrian desert which date from this period, and one of the bigger canals which water the oasis of Damascus is still called after Yazid I, who was known as 'the engineer' (*muhandis*). But the most splendid memorials of the Omayyads are the magnificent buildings which they left: the Dome of the Rock in Jerusalem which was the work of

Abd el Malik, the mosque at Damascus built by Walid I, and a series of palaces in the desert, some of them only recently discovered, or only recently identified as works of this period, Mshatta, Kasr el Heir esh Sharki, Kasr el Heir el Gharbi, Khirbat Mafjer, and so forth. The wall-mosaics in the mosques, the reliefs in stone and stucco in some of the others, these are the loveliest Syrians works which have come down to us. (Plates 72–73.)

The Abbasids, A.D. *750–877*

It was about 720, during the caliphate of Yazid II, that one Mohammed, great-grandson of Abbas, the uncle of the Prophet, began to put forward the claims of the Hashimite branch of the Koreish. His emissaries to Persia and Mesopotamia gradually gained adherents among the followers of Ali. The first attempts of the Abbasids to gain power were futile; but when Omayyad control had been so weakened by internal feuds and by distractions as far away as Spain and France—where the Moslem advance was only halted by the Franks at Poitiers in 732—the black standard of the Abbasids was raised by Abu Muslim in Khorasan in 747, and swept all before it.

Marwan II, the last of the Omayyad caliphs, was defeated by the Abbasids in 750, Damascus was sacked, the capital of the empire was transferred eventually to Baghdad, and Persian ministers took the place of Syrians. The Abbasid Empire became fabulously rich, but in less than a hundred years the western provinces were nearing dissolution. The narrow orthodoxy of the caliphs, which led them to persecute alike Christians and Moslem dissidents, raised up hordes of enemies, and their military weakness drove them to rely upon armies of Turkish mercenaries. The effects were quickly apparent in Syria. Two risings were headed by real or pretended descendants of the Omayyads in the first half of the ninth century. From one of these spread the Shia movement; also a certain Abdullah, the son of a Persian oculist, for some years made Selemiyeh, which lies half-way between Aleppo and Damascus, the centre of the Carmathians, a revolutionary sect which ramified all over the East.

Egyptian and Seljuk Rule, A.D. *877 to c. 1100*

In 877 most of Syria fell into the hands of Ahmed ibn Tulun, a Turkish soldier and forerunner of the great Mongolian invasions of the following centuries, who had made himself master of Egypt. The occupation of the Tulunids, which lasted only until 905, was the

beginning of a long period during which Syria was to be ruled intermittently by Egyptian Sultans; from 935 to 969 another Turkish dynasty, the Ikshidids, ruled most of southern Syria, from Egypt; before the end of the century their place was taken by the Egyptian Fatimids. In Aleppo an independent State was founded by the Hamdanids, who were northern Arabs from Mosul: their rule lasted from 944 to 1003. Antioch and other places in the north were recaptured for a period by the Byzantine emperors. In the eleventh century another Turkish tribe, the Seljuks, gained power in Asia Minor and conquered most of Syria. It was the persecution of Christian pilgrims by the Seljuks which led to the Crusades; it was their internal divisions which gave the Crusaders their early victories.

In spite of all these political disturbances Syria remained a rich country. Much of the trade with India, the Spice Islands, and the Far East continued to pass along Syrian routes. Some of it was brought to Damascus by caravans returning from the yearly pilgrimage to Mecca and some to Antioch by the Persian Gulf and Euphrates, through Rakka, Balis (Meskeneh), and Aleppo. Syrian cities were still homes of learning: the poet Mutanabbi (915–65) and the philosopher El Farabi (*d.* 950) lived at the court of the Hamdanids in Aleppo; Abu el Ala, a famous pessimist poet (973–1057), was a native of Maaret; El Ghazali, the greatest of Moslem mystics (1058–1111), spent some years at Damascus. In the religious field also there was much ferment: the Ismailis, from whom, among others, sprang the Assassins; the Shia ancestors of the later Mitwalis date from the beginning of the period, and the Druse religion from the opening years of the eleventh century; the Alawi cult has been deeply coloured by movements contemporary with these (*see below*, p. 159).

Crusaders and Mongols

In 1097 the Crusaders crossed Asia Minor and after capturing Edessa (Urfa) laid siege to Antioch. At Antioch their land forces were joined by some Genoese who had arrived by sea, and henceforth they depended on command of the sea for reinforcements and munitions. The trading cities in Italy and Provence—Genoa, Venice, Pisa, Marseilles—transported troops in return for valuable trade concessions. Except for the north-east where Baldwin established a short-lived Christian principality in Edessa, the Crusaders never penetrated deeply into Syria, and never captured Aleppo, Hama, Homs, or Damascus, the four city outposts of the desert. Their Syrian



PLATE 69. *Crusader castle of Kalaat el Hosn*

PLATE 70. *Moslem fortress at Sejar*



PLATE 71. *Crusader castle of Markab*

possessions comprised the dominions of Antioch and Tripoli, flanked to north and south by the 'Latin' kingdoms of Armenia in Cilicia and of Jerusalem in Palestine, but in the strip along the coast which they held and strengthened by their castles (Plates 69–71), the maritime commercial cities of western Europe obtained the right to establish trading stations or whole quarters with their own warehouses, factories, churches, and tribunals, and these trading stations had a long life. Jerusalem was retaken by Saladin in 1187, and the last of the Crusader castles on the coast was evacuated in 1291, but the Far Eastern trade in pepper, spices, silks, and precious stones continued to pass through the hands of Western merchants in Latakia, Tripoli, Beirut, and Alexandria down to the end of the fifteenth century. It is this period which saw the origin of the Latin churches of the Levant. The Crusader castles are discussed below, p. 412.

Long before this, Syria, which was now again under the Sultans of Egypt, had been attacked by the Mongol hordes, a far more formidable enemy than the Crusaders. In 1260 Aleppo was captured by Hulagu Khan, and his army advanced as far as Nazareth before it was defeated by the Egyptian Sultan Beibars. In 1280 another Mongol army reached Homs, and in 1300 Damascus was captured. Notwithstanding these raids the country was prosperous throughout the fourteenth century; pilgrims who visited Damascus in 1333 and 1340 were astounded not only at the mass of spices, silks, gold brocades, and precious stones which they saw there, but also at the wonderful skill of the local craftsmen. Travellers write of the admirable confectioners of Damascus who throughout the summer preserved delicious fruits in snow from the mountains, of the distillers of perfumes, of the glass-workers, the weavers, the coppersmiths, and the armourers.

In 1401 Syria was invaded by Tamerlane (Timur): Aleppo, Hama, Baalbek, and Damascus were sacked; the last was pillaged systematically house by house, most of the able-bodied inhabitants were enslaved, and the finer craftsmen, armourers and glass-workers, were carried off to Samarkand. Commerce and the transit trade soon revived, but local industry was paralysed for a long time: in 1449 some pilgrims who asked for silks at Damascus were told that all the silk on sale had been made in Venice. The country districts continued to flourish. Syria was particularly famous for the good quality of cotton which was grown there, for the potash which was used in the manufacture of soap and glass, and for the sugar-cane grown in the districts of Tripoli, Beirut, and Tyre.

Ottoman Rule, A.D. *1517–1918*

After 1500 there is a great change, caused by two decisive events: the arrival of Portuguese sea-power in the East and the rise of the Ottoman Empire. After three-quarters of a century of Portuguese exploration along the western coasts of Africa, Vasco da Gama in 1498 reached India by the Cape of Good Hope and thereby opened up the sea-route from Europe to the Spice Islands. The rapid exploitation of this route by the Portuguese ruined the trade of Egypt and Syria with the Far East: in 1502 the Venetians found only four bales of pepper at Beirut, and the warehouses both there and at Alexandria were soon to stand empty. Far Eastern trade had been cut off at the source. This Portuguese elimination of Egyptian and Syrian overland trade was strongly resisted, but the defeat of the Egyptian fleet near the island of Diu off the west coast of India in 1509, together with the founding of the Portuguese fortress of Ormuz in the Persian gulf by Albuquerque in 1514, effectively diverted almost all the Far Eastern trade to Europe round the Cape of Good Hope.

The conquest by the Ottoman Turks was an added calamity.[1] In 1516 Selim I advanced against Syria and defeated an Egyptian army close to Aleppo. Hama, Homs, Tripoli, and Damascus yielded without a struggle and Tuman Bey, the last of the Mamluk sultans of Egypt, was beaten near Cairo in January 1517. Under the Ottoman sultan, Suleiman the Magnificent, a last effort was made to wrest the sea-power of the Indian Ocean from the Portuguese in 1538, but the attempt failed. The old caravan routes of the Near East soon lost their old importance, never to regain it until the advent of the motor-car and aeroplane.

For the next three centuries Far Eastern trade took the sea-routes and was protected by the sea-power successively of Portugal, Holland, and England. The Ottoman Empire was heavily involved in Europe, and Syria became a backwater: the collapse of trade was followed by the impoverishment of the countryside. Little change was made in the administration: most of the governors who were sent to the different pashaliks (Aleppo, Tripoli, Sidon, and Damascus) had to purchase their posts, and recoup themselves as best they could after satisfying the demands of the treasury in Constantinople. Volney, who visited the country in 1783–5, paints an almost incredible picture of the extor-

[1] A brief history of the Ottoman Empire, 1299–1914, is given in the Handbook on *Turkey* (Admiralty Handbook, BR. 507, pp. 284–302).

tions and misgovernment from which the people suffered. Alternately robbed by their governors and raided by Arab tribes, the villagers deserted the plains round Aleppo and the Bekaa to take refuge either in the towns or in the more inaccessible mountains. It is said that of 3,200 villages once on the tax rolls of the pashalik of Aleppo, only 400 were still inhabited. In Volney's day the happiest people were the Maronites and the Druses,[1] the happiest because, although they lived in the more inhospitable parts of the Lebanon between Tripoli and Tyre, they still had a ray of liberty: they paid a tribute which was more or less fixed, and they were comparatively little troubled by the Turks. Some of the Maronites, who had about 200 convents, and who were educated by Italian missionaries, found employment as clerks in government offices, like the Copts in Egypt. The Druses had their own chiefs; one of them, Fakhr ed Din, even established himself as an independent ruler in the Lebanon for some years about the beginning of the seventeenth century, though this century saw the first migration of Druses to the Hauran and Jebel Druse. The Alawis were less happily placed: their lands were richer, but they were more exposed to Turkish exactions. The Mitwalis, whose territory ran from the Bekaa to Tyre, had suffered even more, having been driven out of Baalbek just before Volney's visit. The Greek Orthodox peasants lived mostly in the pashalik of Damascus; the less numerous Greek Catholics were mainly in towns, where they enjoyed a measure of Frankish protection. There were still a few European business houses in the towns, the French being the most numerous and influential.

Napoleon and Mohammed Ali of Egypt

In the last years of the eighteenth century new influences from the West began to reach the Near East. The ambitions of Napoleon had little direct effect on Syria, which was used as the Ottoman base against the advance of the French from Egypt. But the issue was fought out in Palestine, and Syria was never attacked. The decisive factor was sea-power, once again as so often in the past, and it was the use made of it by Sir Sydney Smith at Acre in May 1801 that finally defeated Napoleon.[2]

In the anarchy which followed (1801–5), Mohammed Ali, a Turkish officer of Albanian extraction, made himself virtual master of Egypt,

[1] For this and the following sects *see* Chapter VII.

[2] An account of this campaign is given in the Handbook on *Palestine* (Admiralty Handbook, BR. 514).

created an Egyptian army on the European model, and, with the help of a number of French advisers, set on foot a series of measures for the development of the country. Mahmud II, the sultan of Turkey, was moving in the same direction though with less success: he destroyed the Janissaries (1825) and launched a number of reforms, the *tanzimat*. Under Western influences of another colour the Greeks had revolted and the Greek war of independence, 1824–7, had ended in the defeat of Turkey.

In the Greek war and elsewhere Mohammed Ali sent troops to the assistance of his suzerain, but in 1831 he himself determined to revolt. The war between Egypt and Turkey reached Syria in the following year. Ibrahim Pasha, son of Mohammed Ali, was in command of the Egyptian forces by land and sea; in 1832 he stormed Acre and in June Damascus opened its gates to him. Beshir, the Christian emir of the Lebanon, had already joined him, and southern Syria, with the exception of the Druses, who had old grudges against Beshir, declared itself for Ibrahim. In July the Turks concentrated their forces at Homs but were defeated by the Egyptians, who entered Hama and Aleppo and defeated the Turks again at Beilan. Advancing into Asia Minor, they routed another Turkish army at Konya in December, crossed the plateau to Kutahia, whence they threatened Bursa, and were halted not by the Turks but by the European Powers, who were not prepared for the dissolution of the Ottoman Empire. The Convention of Kutahya, which was concluded in April 1833, gave Syria and Adana to Mohammed Ali.

This Egyptian occupation of Syria was short-lived. At first Ibrahim had been welcomed everywhere except by the Druses, and the liberal reforms which he introduced into the administration commanded general approval, but Egypt was engaged in a costly war and was soon in need of money and men. Military conscription, new taxes, and monopolies on silk and other local products were the price which Syria was asked to pay. The Syrians had not been disciplined for centuries like the Egyptian fellahin, and in 1834 they revolted. The revolt was suppressed for the time being, but a few years later when war broke out again between Mohammed Ali and the Sultan, the Syrians had their revenge. In 1839 the Egyptian army had inflicted another crushing defeat upon the Turks, but in 1840 when the European Powers, with the exception of France, rallied to the help of Turkey and sent a naval expedition under Sir Charles Napier to the coast of Syria, it was the help which they received throughout the country which contributed greatly to make

Ibrahim's position untenable. The Egyptians were obliged to evacuate the country. France was not prepared to go to war in support of Mohammed Ali, and Syria was restored to the Ottoman Empire.

Druses and Maronites in the Lebanon, 1840–60

In the middle of the nineteenth century reforms were in the air at Constantinople. A charter was promulgated, declaring all Turkish subjects to be equal before the law and guaranteeing their lives, their property, and honour. Feudal survivals which lingered in many, more or less autonomous, parts of the empire were to be swept away. This policy affected Syria, and particularly the Lebanon, which had been practically autonomous for a long time. The original emirs were Druses, the later ones also were men of Druse stock but nominally Maronite by religion; under them were the big landowners with their feudal retainers living by the labours of peasant serfs. The peasants had played an active part during the Egyptian invasion, and were now kicking against their masters with the support of the Maronite clergy, who were themselves of peasant origin. The landowners, both Druse and Christian, were determined to maintain their privileges. The troubles, though agrarian or social in essence, were complicated by religious differences, Maronites and Mitwalis making common cause at first against Orthodox and Druses. The emir was powerless to control the disturbances which broke out in 1841; he resigned, and in January 1842 the Turks, who welcomed the chance of re-establishing their authority, sent with the approval of the Powers a certain Omar Pasha, a Hungarian convert, to take charge. He failed to restore order and was recalled.

The Lebanon mountain was now split into two districts, a northern and a southern, the north being placed under a Maronite *kaimmakam* or administrator, the south under a Druse. This experiment also failed because the districts were too much mixed in character; there were numbers of Maronite peasants in the south settled on Druse estates by the landlords, who had found them more amenable than their own people, and in the north the Christian landlords who still possessed feudal retainers were on equally bad terms with their peasants. Councils were accordingly instituted in 1845 to provide the minorities in each district with spokesmen. But disorders continued, and seven hundred murders were committed in the Lebanon during the next ten years.

In 1857 a violent attack was made on a great landowning family in the north, the Khazins, and the trouble spread south. The Druses

offered assistance to the Christian landlords in the north, but they were determined to take no risks in their own district, where the Maronite clergy were forbidding the peasants to pay their rent. The Druse peasants were on the side of their masters, because, whatever their own grievances, they were genuinely afraid of the Maronites; they saw that in the north the latter were well armed and increasing in numbers and they thought, perhaps with reason, that they might themselves be driven from the Lebanon with their leaders. The embers of trouble were fanned by the Turkish Governor of Sidon, in order to discredit the Lebanese administration; while secretly encouraging the Druses, he persuaded the defenceless Christians in the south that their only hope of safety lay in the protection of Turkish troops. The explosion occurred in 1860. At four places in particular, Hasbaya, Rashaya, Zahleh, and Deir el Kamar, massacres occurred, the Turks holding the ring while the Druses butchered their victims. From the southern Lebanon the flames spread to Damascus. The Governor of Damascus tried to outdo his colleague at Sidon, and thousands of Christians were massacred in spite of the chivalrous efforts of Abd el Kader to quench the revolt. The Pasha of Damascus was later executed for his crimes by the Turks, but the European Powers took no steps to protect the Christians of Damascus for the future, the interest of the French being confined to the Lebanon. The British Government, in maintaining an attitude of non-intervention throughout, was at least consistent.

The Autonomous Sanjak of the Lebanon

The double massacre created a tremendous impression in Europe. The Turks were spurred into vigorous action and Napoleon III sent a French expedition, 6,000 strong, to restore order. A European Commission was appointed, and in 1864 the autonomous State or *sanjak* of the Lebanon came into existence. It was laid down that the Governor or *mutesarrif* must be a Christian, but not a native of the State. He was to be assisted by an administrative council which consisted of four Maronites, three Druses, two Greek Orthodox, one Greek Catholic, one Sunni, and one Mitwali. The police were enrolled from the various communities in proportion to their members. The province had its own system of taxation. The first Governor, an Armenian Catholic, was a remarkable administrator and the Constitution remained in force until 1914. It was no longer the interest of any third party to foment dissensions between the different communities, and they seem to have lived at peace with one

another ever since, the more readily because a large proportion of the Druses emigrated after the revolt to the Jebel Druse.

The Syrian Vilayets

In the rest of Syria, as in other parts of the Ottoman Empire, the administration was remodelled on French lines. Aleppo became the capital of one province or vilayet, Damascus of another, and Beirut, at a rather later date, of a third (Fig. 1, p. 4). The vilayets were subdivided into prefectures or *sanjaks*, the sanjaks into *kazas* (and the kazas into *nahiyas*), and the control of the central government was strengthened. Attempts were made also to extend government authority over outlying areas: Deir ez Zor was made the capital of a new vilayet of the Euphrates in 1867; between 1870 and 1890 colonies of Circassians from the Caucasus were settled at Kuneitra and elsewhere on the fringe of the desert to control Arab marauders; the Hejaz railway, which was opened in 1904, was expected to promote the same object. Railways were built to connect Damascus with Beirut, Aleppo, and Tripoli. The port of Beirut was improved. Many government schools were opened; others were established by the local Churches, by foreign religious orders and by missionary societies. At the beginning of the twentieth century Syria was more prosperous than it had been since the end of the fifteenth.

IV. The Twentieth Century

At the beginning of the century Syria was generally recognized as one of the most advanced portions of the Turkish Empire. Higher education was provided by two universities in Beirut, the Jesuit University of S. Joseph and the American University of Beirut, and these institutions were fed by a number of secondary schools, American, English, French, and others. Large numbers of Syrians emigrated annually to both American continents and at one time, it is said, more Arabic newspapers were circulating in America than in the home country. In Egypt, as of old, the Syrian colony was imposing both in size and influence: it included many high officials in the services of the Egyptian and Sudan Governments, and some of the most important writers and newspaper proprietors. The richer Catholic families had long been in the habit of sending their children to be educated in France. The country therefore had abundant contacts with the outer world, and it was inevitable that the political ideas which were agitating other communities should spread to Syria. The

first stirrings of a Syrian nationalist movement have been traced back to the meetings of a small group of students in the middle of the nineteenth century, but it was not until much later that the movement began to take a clear shape and then only in the form of secret societies. It ran parallel to the Egyptian agitation started about the beginning of this century by Mustafa Kamel, the friend of Pierre Loti and Madame Juliette Adam, and the leaders were for a short while attracted by the Turkish Committee of Union and Progress. The imperialist bias of the 'Young Turks', however, soon disillusioned their Syrian adherents, and the movement was again forced into underground channels.

The War of 1914–18

When war broke out in 1914 there were at least two secret societies which aimed at the creation of an independent Syria, to include all the Arabic-speaking people between the Taurus and Egypt. Several members of these societies, Moslem and Christian, Syrian and Palestinian alike, were executed by the Turks in May 1916, but there was no general rising, not even an attempt at guerrilla warfare; Syria and the Lebanon were on the Turkish lines of communications and not in the battle line. Even in the later stages of the war they stood aloof; the mass of the people were cowed into submission, they waited and starved until the victory of the Allied armies under Allenby was placed beyond doubt.

The battle which sealed the fate of Turkish rule was fought in Palestine during the latter half of September 1918, and within a month the whole of Palestine, Syria, and Cilicia was occupied by Allenby's armies: the war between Turkey and the Allies was brought to a close by the Armistice of Mudros in October. Before this, with the consent of the British Government, Faisal, son of the Sherif of Mecca and leader of the Arab allies, had hoisted the Arab flag at Damascus on 3 October, proclaimed the independence of Syria, and appointed Syrian advisers. This was followed by a joint Anglo-French declaration of policy from General Headquarters which was issued in Palestine, Syria, and Iraq on 7 November. The whole country was placed for the time under the Occupied Enemy Territory Administration ('Oeta'). It was arranged that the eastern half of Syria, including Damascus and the cities of Aleppo, Hama, and Homs, should be under Arab administration; the coastal half, a large district north of the Baghdad railway, and Cilicia, fell to the French, and the south, particularly Palestine, to the British,

but the boundaries between the three spheres were not defined at this time.

Nearly a year later, in September 1919, it was agreed that the Arab sphere should be bounded on the west by the Lebanon, the Jordan, and the Dead Sea, and that Baalbek (which is east of the Lebanon) should be the nearest point to Damascus in French occupation. These, of course, were merely temporary arrangements.

More than fifteen months were to pass before the Powers came to a final decision about the future of Syria and Palestine, but the beginning of 1919 witnessed the opening rounds of what was to be a long and acrimonious three-sided contest. The provisions of the Covenant of the League of Nations had been published. Article XXII which was designed to protect peoples 'not yet able to stand by themselves under the strenuous conditions of the modern world' contained a paragraph which bore a close resemblance to the terms of the Anglo-French declaration. It ran as follows: 'Certain communities formerly belonging to the Turkish Empire have reached a stage of development where their existence as independent nations can be provisionally recognized, subject to the rendering of administrative advice and assistance by a mandatory until such time as they are able to stand alone. The wishes of the communities must be a principal consideration in selecting the mandatory.' Where did Iraq, Syria, and Palestine, the more advanced portions of the old Ottoman Empire, stand? The sparring between the protagonists over this problem was brought to a pause by President Wilson's proposal to send an inter-Allied Commission to the Near East to find out on the spot what were the wishes of the people themselves. The proposal was supported by Great Britain and two British Commissioners were selected, but it was bitterly opposed by France and the British Commissioners were never sent out. The two Commissioners appointed by President Wilson to represent America, Dr. Henry King and Mr. Charles Crane, consequently went out alone. They reached Jaffa in June 1919, spent the next six weeks interviewing delegations and receiving petitions in Palestine and Syria, and returned to Paris by way of Constantinople after paying a brief visit to Cilicia.

While the Commissioners were in the country a Syrian General Congress met at Damascus in July. The Congress included delegates from both Syria and Palestine; it was hastily summoned, and it did not represent every shade of opinion, but there seems little reason to doubt that the ten resolutions which they passed, nine of them unanimously, reflected the views of a majority of the more enlightened

sections of the population. These resolutions are quoted more than once in the report of the American Commissioners, which is dated 28 August, and it is worth while to compare the two documents together in so far as they concern Syria. As to the area of the new State, both agree that Palestine should be included with Syria; the Congress asked for Cilicia as well, but to this the Commissioners demurred. Both agreed that Faisal should be made king of the area and that it should be separated from Iraq. The Congress objected to the application to this area of the mandatory system laid down in the Covenant, on the ground that 'Arabs were as ripe for independence as the Bulgarians, Serbs, Greeks or Roumanians': the Commissioners, on the other hand, recommended that the mandatory system should be introduced, but only for a limited period, the limit to be fixed by the League in the light of the annual reports which it would receive. Whether a mandate or mere assistance were given, both agreed that it would come most acceptably from America and, failing America, from Great Britain, not from France. The Commissioners were anxious that the autonomy of the Lebanon should be maintained, but as a constituent member of a Syrian State. Both deprecated the idea of a Jewish Commonwealth in Palestine.

The French Mandate

The French were passionately resolved to embark upon an adventure which was to prove thankless and expensive. They had some old financial interests in the country: they had built the carriage road from Beirut to Damascus in 1857, the port and quays at Beirut in 1888, the railways from Damascus to Mezerib, from Beirut to Damascus, and from Rayak to Aleppo between 1889 and 1893, and the branch from Homs to Tripoli in 1909, all these works having cost some 135,500,000 francs (pre-war). In 186c France had taken the lead in protecting the Lebanese Christians. But the real grounds for her action are to be seen in the number of French schools which have been started in Syria. According to the last report there were 389 French schools in Syria and the Lebanon, and with few exceptions they were religious foundations. The determination of the French to secure at least a mandate in a country which the Crusaders had once conquered was mainly the work of the clerical parties of the Right, who were genuinely anxious to safeguard the Lebanese Catholics.

As neither Britain nor America wanted the mandate, the choice of

France was a foregone conclusion. The formal decision was precipitated by a second meeting of the Damascus Congress in March 1920. The Congress proclaimed the independence of Syria (including Palestine and the Lebanon but reserving the latter's acquired right to autonomy), and it offered the crown of Syria to Faisal. A meeting of Iraqi leaders passed a similar resolution about Iraq and chose Abdullah, the brother of Faisal, as first king. These resolutions were at once repudiated by the Allied Powers: a meeting of the Supreme Council was held at San Remo, and it was decided that a mandate for Syria and the Lebanon should be given to France, that mandates for Iraq and Palestine should be given to Great Britain, and that all mandates should be 'A' mandates envisaging the ultimate independence of the States. In accordance with this a mandate for Syria and the Lebanon was issued by the Council of the League of Nations on 12 August 1920.

Meanwhile General Gouraud had been sent to Syria as French representative and Commander-in-Chief. He arrived in October 1919 and his first task was to take over the area still occupied by the British, the Arabs continuing to garrison the eastern half. The French were in complete occupation of western Syria by the turn of the year: the district and towns north of the Baghdad railway which they had previously held, they were compelled by the Turks to evacuate in April 1920; Cilicia, too, they decided to hand back to Turkey. Gouraud was now therefore in command of a strong force which was composed largely of colonial troops, and, as friction increased between French and Arabs, he determined to dally no longer. On 14 July he sent an ultimatum to Faisal, demanding the unconditional recognition of the French mandate; the immediate reduction of the Syrian army and the abolition of conscription; the unimpeded circulation of a new Franco-Syrian currency; the French military occupation of the Rayak-Aleppo railway and of Aleppo; the punishment of Arabs who had attacked French forces. Faisal accepted these terms, but fighting broke out: the Arab forces were hopelessly defeated, Aleppo was occupied by the French on 24 July and Damascus a day later. Thus the independent State of Syria fell 'because its own armed strength was insufficient to secure its survival'. Faisal was ordered to leave Syria which he did in dignified silence, and on the cliff above the Dog river, where conquerors from Ramses II to Allenby have carved their memorials, a new record celebrated the defeat of Syria by the French.

The French had other blows in store for the Syrian nationalists:

they had conquered Syria, and they prepared to treat it as conquered territory.

(1) The separation of the Lebanon had been decreed by the Supreme Council when it decided to recognize *two* States, not one, under the French mandate, and the French next proceeded, in August, to enlarge the Lebanon at the expense of Syria: Beirut was added to the Lebanon as was reasonable, but with Beirut the large Moslem port of Tripoli, the whole of the coast from Tripoli to the Palestinian frontier, and the whole of the Bekaa, including the town of Baalbek, was also added. This deprived Syria of access to the sea except through the mainly Turkish port of Alexandretta and the Alawi port of Latakia. A 'mediaeval ordinance' that no inhabitant of the Lebanon should be allowed to emigrate was issued at this time but allowed to become a dead letter. The independence of the Lebanon was declared on 1 September, and a nominated administrative commission with a French governor was appointed. Later, a decree of March 1922 provided for an elected representative council, and a Council of State was instituted in September 1924.

(2) The remains of Syria were split up, Crusader fashion, into a series of separate administrations. The most important of these were the two States of Damascus and Aleppo, each under a native governor who was appointed by the High Commissioner and controlled by a French adviser. The district north of Tripoli became the Territory of the Alawis in September 1920, and was placed under a French administrator who was stationed at Latakia: it was recognized as a State in July 1922. The Jebel Druse became another State by an agreement signed with Druse chiefs in March 1921; this provided for the election of a native governor and an elective Council of Government. For a fifth district, the sanjak of Alexandretta, which included Antioch, a special regime was instituted in accordance with the Franco-Turkish agreement of October 1921.

The four Syrian States—Damascus, Aleppo, Latakia, and Jebel Druse—the sanjak of Alexandretta and the Lebanon were now united only by the *Services Communs* which were administered by the High Commissioner, and the aggrandized Lebanon overshadowed all the rest. 'Divide and rule' has rarely been applied more ruthlessly. It was difficult to reconcile this parcelling of the country with the avowed object of the mandate, and the French soon realized that the division had been overdone. In April 1922 riots broke out in Damascus and the High Commissioner decided on a partial reversal of policy, the first of many such changes. By a statute signed in



PLATE 72. *Omayyad mosque at Damascus*

PLATE 73. *Othman mosque at Aleppo*

June 1922 the three States of Damascus, Aleppo, and Latakia were federated together. But the actual working of the federation was turned to account by the French to recover part of the ground given up. In the new Federal Council the communities of Aleppo and Damascus, but not the Alawis, demanded a unitary State in place of a federation. In the summer of 1924 it was announced by General Weygand, now High Commissioner, that the federal organization was to be abandoned and the two States of Damascus and Aleppo amalgamated; the State of Latakia, owing to the strong protests of the Alawis, was to remain outside the State of Syria like the Jebel Druse.

The Druse Rising, 1925–8

By a curious irony it was in the Jebel Druse, and as the fruit of the labours of one of the best and most vigorous administrators who has served in Syria, Captain Carbillet, that the most serious rising started which the French have had to face. For he had hustled the feudal lords of the Jebel Druse, and in April and June 1925 three Druse delegations tried to lay their complaints before General Sarrail, the new High Commissioner. The first delegation was brusquely rebuffed; the second and third were refused audiences, though the Government was warned that the position was serious. On 3 July shots were fired at the Assistant French Administrator in Suweida, the capital of the Jebel Druse, Captain Carbillet being on leave. An inquiry was opened and General Sarrail addressed a letter to his delegate in Damascus requesting him to summon 'the conspirators' whom he named 'on the pretext [*sic*] of receiving their demands'. Three Druse chiefs who obeyed this summons were sent into enforced residence at Palmyra.

Sultan el Atrash, the leading spirit among the Druses, stayed behind and determined now to take up arms. Shots were fired at French aeroplanes and two days later Salkhad, a stronghold east of Suweida, was captured by the Druses (Fig. 11, p. 30). The next day a French column (7 officers, 166 men), dispatched from Suweida to rescue some airmen, was surrounded by superior Druse forces and less than 70 got back to Suweida. The French garrison in the old Turkish barracks there was now invested. On 2 August a column some 3,000 strong—including about 63 French officers, 840 French other ranks, contingents of Malagasies from Madagascar, and Syrians—marched to the relief of Suweida from Ezraa, a place on the railway between Damascus and Deraa. The column was attacked; its supply train

with field-guns, munitions, and provisions was surprised and fell into the hands of the Druses; the main force had to fight its way back to Ezraa, total casualties being not less than 800. New recruits rallied to Sultan and he was able to arm them with the captured equipment. On 24 August 1,500 mounted Druses advanced against Damascus, where there were many who sympathized with their cause. Four miles from the city, however, they were routed by a regiment of Algerian spahis, and in Damascus six members of the nationalist People's Party were arrested, others escaping to the Jebel Druse. Here a National Syrian Government 'appears to have been proclaimed' about the second week of September, and a manifesto was issued by Sultan summoning all Syrians to fight for complete independence, and invoking the principles of the French Revolution and the Rights of Man. In the meanwhile General Gamelin had been given command of the army under Sarrail, and on 14 September he occupied Museifarah, some 10 miles east of Deraa on the road to Suweida. After two battles with the Druses he relieved the beleaguered garrison and returned with it to Museifarah on 26 September. Early in October he marched against the Jebel Druse again, but had to fall back on his base and in November Museifarah also was evacuated.

Meanwhile the rising had spread. Hama was seized by beduin on 4–5 October and they were only expelled by systematic bombing from the air which caused many casualties and much damage. Fighting on both sides became more savage; on 14 October the French paraded the corpses of 26 insurgents on camel-back through the main streets of Damascus, and in reprisal the Druses exposed the bodies of 11 Circassians in government service at the East Gate. On 18 October the insurgents entered the southern outskirts of the city and in the late afternoon attacked the Senegalese garrison in the Azem palace, which was the Damascus residence of the High Commissioner. Sarrail, who was there at the time, ordered the bombardment of the city from the citadel. The bombardment began about 6 p.m. on the 18th, it was continued from 10 a.m. the following day until noon on the day after; tanks charged, there was bombing and machine-gunning from the air. The burnt area in the bazaars covered nearly 10 acres, 186 houses were destroyed, the Azem palace and the Sinaniyah mosque suffered severely, and the total damage was valued at over £T400,000 gold. The Armenian quarter and the Armenian refugee camp suffered particularly at the hands of the insurgents, because many Armenians were serving with the Circassians on the government side.

In a third region the Druses were less successful. They attempted to attack the Lebanon from the south (Fig. 5 *b*, p. 17); Hasbaya, which had a Senegalese garrison, was taken on the night of 9–10 November and Merj Ayun on the 15th, but they failed to take Nabatiyeh or Rashaya, which was stoutly defended by a squadron of Tunisian spahis and a squadron of the Foreign Legion. They failed also to win over the support of the Lebanese, whether Druse, Christian, or Mitwali. The resistance which they encountered here gave the French time to secure reinforcements from overseas, and the Government recovered much of the lost ground, though a large area to the east, stretching from Jebel Druse as far north as Palmyra and from the eastern slopes of Mount Hermon and the Anti-Lebanon to the Hamad, remained mainly in insurgent hands at the turn of the year.

The bombardment of Damascus had roused fierce indignation in France and General Sarrail was recalled at the end of October. He was replaced by M. de Jouvenel, who adopted a conciliatory attitude; he released the interned leaders of the Syrian People's Party, but it proved impossible to bridge the gap between the party's demands and what France was ready to yield. The party asked that the Alawi and Druse States should be incorporated in the Syrian State on a basis of decentralization; that four of the districts recently added to the Lebanon should be restored to Syria; that in other districts elections should be held to determine their destiny; that the relations between Syria and France should be regulated by treaty; that Syria should become a member of the League of Nations, and so forth. Fighting broke out again in Damascus in February 1926, but henceforth the insurgents began to lose ground; in March the French captured Nebek, one of their strongholds to the north; they occupied more of the Hermon district in April, Suweida on 25 April, and Salkhad on 3 June. Druse bands, on the other hand, re-entered Damascus in May, and the Meidan quarter was again bombarded; the losses, which were estimated at 1,000 lives, 1,200 houses, and 400 shops, were more serious than in the previous bombardment. Guerrilla fighting continued for several months longer, and it was not until 16 February 1928 that the state of siege in the town and State of Damascus was raised. At the same time the censorship of the press was abolished, a liberal amnesty was granted, and a large number of persons who had been living under open arrest were set at complete liberty. It was frankly admitted that the country had suffered too long from

uncertainty about its future, and a Constituent Assembly was elected to prepare organic statutes for a Syrian State, which were much overdue.

Efforts to find a Settlement

More than a year before, in June 1926, M. de Jouvenel, who had since been succeeded by M. Ponsot, had told the Permanent Mandates Commission that it was the policy of the French Government to conclude treaties between Syria and the Lebanon and between Syria and France which would be the first step towards the extinction of the Syrian—though not of the Lebanese—mandate. A Lebanese Constitution had been approved in 1926, and now that peace was restored there was no reason to delay the preparation of a Syrian Constitution. The Constituent Assembly elected for this purpose met at Damascus in June 1928. Most of the next eight years were spent in wrangling first over the Constitution, then on the draft of the treaties. The chief points at issue were old. The Syrians reaffirmed the 'indivisible political unity of the Syrian territories which had been detached from the Ottoman Empire at the end of the war'; in so far as these included Palestine and Lebanon the French held that they had no power to negotiate: in so far as Latakia and the Jebel Druse were concerned they refused to negotiate. On the latter question both parties were equally stubborn.

The Constituent Assembly was prorogued *sine die* on 5 February 1929, and on 14 May 1930 the High Commissioner promulgated a Constitution for Syria, Organic Regulations for the sanjak of Alexandretta which in his view was a part of Syria, Organic Statutes for the Governments of Latakia and Jebel Druse which in his view were not parts of Syria, and Organic Regulations for a conference on common interests between the various States and Governments. After protests and demonstrations a provisional government was set up in Syria, and after further disorder the Syrian Chamber met in June 1932 to make a treaty with France. A treaty was actually signed on 16 November 1933 providing, more or less on the Iraq precedent, for the admission of Syria to the League of Nations after a period possibly of four years, while Latakia and the Jebel Druse remained in a mandated zone. The publication of this treaty led to violent scenes: the session of the Chamber was suspended on 24 November and a deadlock ensued. In 1934 there were renewed strikes and demonstrations at Aleppo, Hama, Homs, and Damascus, and on 2 November the Chamber was suspended *sine die*. In 1935 the situation was

calm superficially, but much was going on below the surface and the storm broke in January 1936. A general strike lasted for fifty days, para-military formations organized demonstrations, while Moslems and Christians fraternized in a new spirit all over the country, including the Lebanon. After some attempts at repression, M. de Martel, the new High Commissioner, yielded and it was agreed that a delegation should proceed to Paris to negotiate a new treaty: the delegation started on 21 March.

This retreat on the part of the French should be viewed in connexion with what was happening in other parts of the Near East and these again with what was happening farther afield. The Balkan Pact, between Turkey, Greece, Roumania, and Yugoslavia, the Saadabad Pact, between Turkey, Iraq, Persia, and Afghanistan, the Anglo-Egyptian Treaty which had been signed in 1936 after a time of troubles like that through which Syria had passed, were all indications of a general nervous malaise which was spreading over this part of the world. The revolt in Palestine, which followed immediately on the general strike in Syria, was a different reaction, but it was part of the same complex. This made the French readier to compromise than at any previous period, and they could do it with the better grace because the Syrian agitation, though prolonged, had been conducted on more or less orderly lines and without serious bloodshed. The delegates were further helped by the accession to power of a Popular Front government shortly after their arrival in Paris. In consequence, they were able to return to Damascus with a draft treaty which was unanimously approved by the Syrian Parliament on 27 December 1936; a nearly similar Franco-Lebanese draft had been approved on 13 November. The unity of Syria, the rock on which previous negotiations had foundered, was preserved by assimilating the position of the governments of Jebel Druse and Latakia to that of the sanjak of Alexandretta. In other respects the treaty followed generally the lines of treaties which Great Britain had signed with Iraq and Egypt: it provided for the mutual assistance of the respective States when either was at war—the assistance of the Syrians to be of a passive character—and for the admission of Syria to the League of Nations three years after the ratification of the treaties by the French Chamber. The treaty with Syria differed from the treaty with Iraq in that it contained provisions to reassure the two compact minorities. French troops and local elements recruited in the Druse and Alawi zones were to be stationed there for eight years after the ratification.

The Syrian Republic after the Franco-Syrian Treaty

With the signature of the treaty at Damascus relations between Syria and France entered a new phase. The ratification of the treaty at Paris hung fire and in fact never materialized, but the French authorities in Syria proceeded to act as if it were only temporarily delayed. In internal matters they gave the Damascus Government far more freedom: the High Commissioner retained his right to veto but did not use it, and the French advisers surrendered the right by which they had hitherto controlled ministerial acts. The High Commissioner interfered neither with the preparation nor the execution of the State budgets. In such matters as Defence and Foreign Affairs, on the other hand, no real steps towards emancipation could be taken: France could not lay down her responsibilities, nor could Syria bear the cost of these services, but otherwise it was a period of genuine probation.

The new phase was not a happy one either in Syria or the Lebanon. In Syria some of the troubles were due to inexperience, others to circumstances beyond the control of the administration. The combination resulted in a state of exacerbation in Damascus which led ultimately to the downfall of all ministerial government.

Serious troubles occurred in the Jezireh. The Syrian government resented the establishment of refugee minorities from Turkey and Iraq in this area (*see below*, p. 155). The Syrian mohafez or governor was exceedingly tactless, and a demand for local autonomy was voiced. A massacre of Christians at Amuda, which was said to have been instigated by extremists from Damascus, was only averted by a Kurdish chief and the arrival of French aeroplanes; the first officials sent out by the government had to be recalled; the next governor was kidnapped in December 1937 shortly after his arrival; five fatal casualties occurred at Hassetche when his successor was on tour. Eventually direct French administration was partially restored (*below*, p. 177). In the Jebel Druse the Syrian officials were boycotted or blockaded in their houses. Among the Alawis there was a recrudescence of civil disobedience, highway offences, and religious conflicts between Alawis and Ismailis. These occurrences were unfortunate, but there was every reason to believe that the lessons learnt at the outset had not been lost on the leaders at Damascus.

Matters for which the Syrian Government was not responsible were the dislocation of business caused by successive devaluations of the franc, the non-ratification of the treaty by the French Chamber,

and the proceedings which ended in the cession of the sanjak of Alexandretta to Turkey.

The sanjak of Alexandretta or Republic of the Hatay, as it was known for a short period, included the finest natural sea-port on the Syrian coast as well as the famous city of Antioch (Antakya), and it had always enjoyed a special regime because it contained a large Turkish element. With the prospect of the termination of the mandate and in order to safeguard the interests of this element, the Turkish Government pressed for a number of measures which led to the incorporation of the sanjak in the Turkish Republic in July 1939. This act, which appeared to violate the mandate,[1] was defended by the French as being necessary to protect Syrian independence. It was approved by the League of Nations but bitterly resented in Syria, where each of the various steps which led up to it had been strongly opposed.

This accumulation of untoward circumstances created a tense atmosphere in Damascus. The ministry was fiercely assailed and retaliated violently; in 1937 leaders of the opposition in the Chamber were hastily sentenced to terms of imprisonment which had to be reduced as hastily, and in the three years 1936–8 action was taken on forty-five occasions against the press. In February 1939 the ministry fell. After a series of ministerial crises, the constitution was suspended by the High Commissioner; in September a non-political Council of Directors was appointed to take charge of the government departments, autonomy was restored to the Alawis and Druses, and the Jezireh was placed under a delegate of the High Commissioner.

France and the Lebanon Republic

In the Lebanon the troubles were deeper seated and of a more sordid character. The country was poor, the constitution of 1926 was elaborate and expensive, the administration corrupt and inefficient. The amount of nepotism may be gauged by an ordinance to the effect that not more than three members of one family should serve in the same department nor more than seven in the various branches of the public administration, and that relations of the Head of the State, the Ministers and Deputies, should only be appointed

[1] *Article* 4: 'The Mandatory shall be responsible for seeing that no part of the territory of Syria and Lebanon is ceded or leased or in any way placed under the control of a foreign power.'

to public posts after passing an examination. In 1933 the constitution of 1926 was suspended and a provisional administration instituted. At the beginning of 1936 the Lebanese had taken part in the general fraternization between Moslems and Christians, and the French authorities with whom their relations had been always amiable decided to negotiate a Franco-Lebanese treaty on the same lines as the treaty with Syria. The old constitution was restored, with amendments that had been made in 1929; in 1937 the number of Deputies was raised from 25 to 60. The old intrigues and factions continued, both the two chief rival groups belonging to the Maronite confession. In 1936 and 1937 press offences called for action on 43 occasions, 13 of them at the instance of the High Commissioner. There was general relief when the Lebanon Constitution also was suspended in September 1939—a fortnight after the suspension of the Syrian Constitution—and a Secretary of State appointed with a French adviser and an advisory council of officials.

The Second World War

Meanwhile war had broken out with Germany. Martial law was proclaimed on 2 September. Public opinion rallied to the side of the Allies. The Anglo-Franco-Turkish Treaty of October 1939 was welcomed. Some extremist organizations were suppressed, but relations between the authorities and the principal politicians in Syria remained good.

With the collapse of France in June 1940 a new situation arose. For a few days it appeared that the French in Syria would continue to support the Allies, but on 27 June the Commander-in-Chief issued a proclamation ordering the cessation of hostilities and from this time Anglo-French relations deteriorated. In August Syria was closed temporarily to British and other combatant subjects of military age and public listening to any station except Radio-Orient (Beirut) was forbidden. The new anti-Jewish legislation of the Pétain government was introduced into Syria. Important French officials, including the Commander-in-Chief and, in November, the High Commissioner, were replaced by others in whom Pétain had more confidence.

Local politics were in abeyance, but an event which stirred the country deeply was the murder of Dr. Shahbandar. Formerly Faisal's Foreign Minister, he had been one of the leaders in the 1925 insurrection and had fled to Egypt after its collapse. During the late treaty regime he had returned to Syria and led the opposition to the National group which was then in power. He was shot

dead in his clinic at Damascus. The assassins were members of the working class, but his political opponents were suspected of having instigated the crime and three of them took refuge in Baghdad. At the trial in December the leader of the murderers said he was actuated solely by religious motives, believing Dr. Shahbandar to be responsible for the decay of Islam; he was executed with five others and the fugitive politicians were exonerated. This closed the affair, but the contacts of Dr. Shahbandar with Egypt and Trans-jordan, and those of his opponents with a group of politicians in Iraq, indicate the divergent trends in local opinion.

The Syrian Council of Directors became more and more unpopular and in March 1941, after a series of strikes and demonstrations at Damascus, Deir ez Zor, and elsewhere, the Head of the Government resigned. General Dentz, the High Commissioner, proposed to replace the Council by a Ministry with an advisory assembly of representatives which should include Alawis and Druses, and a new Prime Minister took office on 5 April. Two days previously the pro-Axis leader Rashid Ali el Gailani had seized power in Iraq. On 2 May Rashid attacked the British aerodrome at Habbaniyeh, and the use of Syrian aerodromes by the Germans constituted such a serious threat that the British were compelled to consider drastic action. On 29 May Mr. Eden explained the British attitude towards Arab aspirations: 'Many Arab thinkers', he said, 'desire for the Arab peoples a greater degree of unity than they now enjoy. . . . It seems to me both natural and right that the cultural and economic ties between the Arab countries, and the political ties too, should be strengthened. His Majesty's Government will give their full support to any scheme that commands general support.'

The British advance into Syria began on 8 June. Unexpectedly strong resistance was offered, although the Druses gave the British some assistance; bitter fighting ensued on the road to Damascus, round Merj Ayun, and on the coastal road in front of Sidon and before Damur; Beirut and Tripoli were attacked from sea and air; smaller British forces advanced from the east and north-east from Iraq through Palmyra. On 11 July the campaign was over and the whole country passed into the hands of the British and Free French. In September the independence of Syria was proclaimed in Damascus by General Catroux representing the Free French; the independence of the Lebanon was proclaimed at Beirut in November. These declarations have apparently not ended the Mandate, which is held by the Allied Governments to continue despite the withdrawal of

the French (Vichy) government from the League of Nations in 1941. The administrative machinery of the Mandatory is still in being, although some of the titles of office have been changed, the High Commissioner being now known as the Délégué Général. A British Mission under General Spears has been established which has authority in matters affecting the military interests of the Allies, while purely civil affairs pertain to the Délégué Général. A fuller account of the military campaign of 1941 and subsequent events will be found below, p. 420.

CHAPTER VI

THE PEOPLE

SYRIA has been overrun again and again, as shown in the last chapter, by invaders from north, south, east, and west; whole populations have been transplanted, driven out, and driven in. In times of peace there has been a continual infiltration from the same quarters; and for long centuries during early times it was an entrepôt for the world's trade. It is not surprising therefore to find considerable variation in the physical and moral make-up of the present-day inhabitants, in head form, stature, and blood count, and also in language, customs, and religion.

RACIAL STOCKS

Most of the people, however, fall into two main groups, probably because the most effective invasions have come from two main regions: Hittites and Turks from Anatolia, and Phoenicians, Canaanites, and Arabs from the east and south. The head-forms of the two groups are sharply contrasted: the skulls of the one very short and high (*hypsibrachycephalic*), those of the other rather long and flat (*mesocephalic* or *dolichocephalic*).

The first of these types is common in the mountain regions of western and southern Syria, among the Alawis, the Christians and Mitwalis of the Lebanon, and the Druses, and among the townsfolk of Aleppo, Hama, Homs, and Damascus (Plates 74–9, 82, 84). It is characteristic of many Armenians and of many Turks in Asia Minor as well as of the Assyrian Christians or Nestorians from Hakâri (p. 155) and of Christian Arabs from Mosul. Individuals who display this type in its most pronounced features have dark hair and eyes, a strongly curved nose, thick lips, large ears, a protruding Adam's apple, and a flying forehead; the skull is very high, the post-auricular region very short, and the occiput flat and straight. A delineation of several of these features bordering on the caricature is to be seen on ancient Egyptian representations of the Hittites.

This round-headed Mountain Zone type is best represented to-day by some of the Turki tribes of Central Asia, and was probably that of the Hurrians or Subareans who played a great role in Syria in the early second millennium B.C. and of the Assyrians of Shal-

maneser's day (p. 109). Some of the members of this racial group speak or spoke Turkish dialects, others Indo-European languages such as Armenian, and others—including the ancient Assyrians and most of the inhabitants of modern Syria—a Semitic tongue.

In Syria the type generally appears in its less exaggerated form at the present day, and the variations which are revealed have been influenced by admixture with two long-headed groups, one from the south, the other from the north. The Druses differ from other members of this brachycephalic group in blood count, a difference which, it has been suggested, may be related to the long period during which they have intermarried among themselves.

The second main type is dominant among the beduin of the desert both in Syria and in Iraq, and it becomes increasingly common in Palestine the farther south one goes (Plates 80–1). The skull is flatter on top, the post-auricular region long, and the occiput is rounded into the nape. In early times this long-headed type appears to have been dominant both among the ancient Phoenicians—the people of the coastal lowlands—and among the Palmyrenes of the desert, so far as can be determined from skulls found in their cemeteries. This may well have been the type of head-form of the first Phoenicio-Canaanite immigration.

Both the main types are found among the Jews of Syria: most of the Sephardim Jews—racial connexions of the western or Spanish Jews of the Middle Ages—belong, as do the Samaritans, to the long-headed Phoenician type. The Ashkenazim or continental Jew is generally round-headed or brachycephalic. It is likely that Abraham, as an immigrant from Harran in the Hurrian or Subarean area, belonged to this last group.

The Kurds, who now form a large element in the Jezireh, are the only recent new-comers from other parts of Asia who may belong to a third and different stock, possibly with some affinity to nordic strains. Their original stock has to be counted as mesocephalic on account of the head-measurements and in spite of the high proportion of blonds, but the present-day Kurds contain a large admixture of some round-headed Caucasian race (Plate 83).[1]

Racial Minorities

The great bulk of the population has been settled for many centuries and even millennia in Syria, despite the ever-recurring invasions which have left their residue behind. But in recent years a

[1] See Geographical Handbook of *Turkey*, B.R. 507, p. 344.



PLATE 74. *Christian girl*



PLATE 75. *Alawi woman*



PLATE 76. *Alawi peasants hawking*



PLATE 77. *Moslem boys at Aleppo*



PLATE 78. *Moslem villager*



PLATE 79. *Armenian women*

number of national minorities, flying from political oppression, have arrived in the country. These include the last-mentioned Kurds who have come since 1918 from Turkey and Iraq, where their main body has been awakening to a partial political self-consciousness. There is also settled in the Jezireh a compact community of Assyrian Christians, recently arrived from Iraq, whither they fled in 1917–18 from their long-traditional home in the Hakâri mountains of Kurdistan. They are noteworthy because of their strongly pro-British sympathies at the time. The story of their settlement in Syria illustrates a common pattern in the history of Syrian refugee minorities.

Between 1933 and 1936 some 8,000 Assyrian refugees arrived in Syria from Iraq. Their settlement was financed by the League of Nations, which appointed a Council of Trustees to supervise the task. The Assyrians were established along the valley of the Khabur in the Jezireh, where they have formed sixteen villages, of which Tell Tamer is the administrative centre (Fig. 39). They are governed according to their ancient customs by their own leaders and headmen, Maleks and Rais. Though hitherto a pastoral people, they have become tillers of the soil in Syria. The Council of Trustees has provided machinery and water-pumps, and the establishment of a farming community is making headway. They had their own church schools in 13 out of their 16 villages in 1936. The community is increasing rapidly and numbered nearly 9,000 in 1938.

Another and much larger national minority is formed by the Armenians. They include descendants of Cilician Armenians who joined the Crusaders, but are mostly recent refugees who arrived from Turkey in 1921, about 100,000 strong. They are mostly an urban people, intelligent and industrious; large numbers have been permanently established in Aleppo, Damascus, and Beirut, but there are also some village settlements. The Circassians of Kuneitra—Moslems from the Caucasus—and the Cretan Moslems in the Akkar were settled in the country by the direct action of Sultans of the Ottoman Empire. The Jews, however, apart from some recent European refugees, are the descendants of the ancient community of Jews, mostly native Samaritans and Sephardim. A small Turkish group, a remnant of the Ottoman regime, and some Europeans, mostly French, complete the picture.

Language

Arabic is now spoken from one end of Syria to the other. It has gradually dethroned Syriac or Aramaic, much in the same way as the

latter displaced the Hebraeo-Phoenician group of languages. All these belong to the Semitic family. Syriac appears on north Syrian inscriptions about the eighth century B.C. Two centuries later it became the official language in the Persian provinces west of the Euphrates, and it is believed to have ousted Hebrew as the vernacular in Palestine during the second century B.C., Hebrew surviving only as a sacred language in the synagogues. With the coming of Islam in the seventh century A.D., Arabic, the language of the conquerors, had at first to compete with two languages—Greek, which had been the official language of both the Roman and the Byzantine administration, and Syriac, which was the vernacular of most of the inhabitants and the language used in the native Christian churches. Greek fell out of official use within the next hundred years; Syriac survived much longer, but in the eleventh century Christian writers were already using Arabic; Syriac, though still used in some church services, has now become a dead language, though some villages on the eastern side of the Anti-Lebanon—Maalula, Bakhaa, and Jubb Adin—are said to have spoken it until quite recently, and there may be a few old folk still alive who can talk it. The language of the people to-day, whether Christian or Moslem, is Arabic.

A few comparatively recent new-comers from other parts of Asia still speak the mother tongues they have brought with them: such are the Armenians, the Kurds, the Turkomans, the Kurdish-speaking Assyrians, and the various Caucasians who are known generically as Circassians. Most of these are reported to be becoming bilingual, with Arabic as a second vernacular, but there is a movement among some of them to keep the old languages alive in the schools.

French has been recognized as a second official language during the mandate of France, just as Turkish was during the rule of the Ottoman Empire; English is also spoken as a second unofficial language by the large numbers who have been educated in American and British schools and by emigrants who have returned from America.

Arabic is also the written language of the country, and its characters are used for printed books and for correspondence among the people; but French is used in many official reports and documents and in scientific papers. The maps, for instance, are French, with the names transliterated into Latin characters according to the French system, which is different from that adopted in the neighbouring States of Palestine, Transjordan, and Iraq, which use British systems. The Latin characters in the French systems have not always the same significance as those in Turkish.

Religion

The people of Syria may therefore be said to be Semitic by language, and to be divided racially into two main groups, one affiliated to the round-headed Anatolians of the north, the other broadly akin to the long-headed Arabs of the south and south-east. But it has been said that, in the Levant, classifications which are based on language or ethnic type are of no real importance politically, however interesting they may be scientifically, and that it is a man's religion which constitutes his nationality. To-day the truth of this statement would be contested by the majority of the articulate and politically self-conscious people in the country, whether they call themselves Lebanese or Syrian or Arab nationalists. Druses have made common cause with Sunnis, and a Greek Orthodox Patriarch has been invited to preside over a nationalist congress. But in varying degrees the religions and religious sects which abound in Syria are still forces to reckon with, though they may not be so important as in the nineteenth century (p. 135).

The chief Moslem groups are the Sunnis and Shias, the latter represented in the country by Mitwalis and various sects which have broken off from them. Of the Christian Churches the most important are the three Orthodox (the Greek, the Syrian, and the Armenian or Gregorian), and the five Uniate Churches (the Maronite, Syrian Catholic, Greek Catholic, Armenian Catholic, and Chaldaean Catholic). There is also a mixed assemblage of Protestants which, though their adherents are few, probably include as many sects as all the ancient churches together. To complete the picture, there is a Jewish community which is very largely of the Sephardim rite.

The minor groups may be mainly of historical interest, but the country as a whole is characterized by great regional religious differences which have actually formed the basis of its present political organization and boundaries. Thus the Lebanon is fairly evenly divided between Moslems (386,469) and Christians (403,339)—the small Christian majority having an obvious bearing on the political boundaries of the State—and the Syrian Republic is predominantly Moslem (2,127,247) with only a moderate Christian minority (331,467). For the statistics *see* p. 203.

ISLAM

Sunnis. The vast majority of Moslems all over the world are classed as Sunnis, so called because they accept the *Sunna* or tradi-

tions of Islam, which were incorporated in six great compilations during the ninth century and recognized as orthodox by the consensus of the *ulema*, or learned doctors of the faith. In the republic of Syria they are far more numerous than all the other communities added together, and in that of the Lebanon they are second in number only to the Maronite Christians. They include both *fellahin* (peasants) and *beduin* (nomads), and by race may be Syrian or Turkish, Kurdish, Circassian, or Cretan.

The Sunnis have been in conflict on religious grounds with the French on one or two occasions. Absolute freedom of conscience is recognized in the Syrian constitution, but the Syrian Minister of Justice refused to admit the application of a Sunni who wished to become a Catholic, and the marriage of a Moslem with a non-Moslem is still held to be invalid unless the non-Moslem changes his or her religion. The Sunnis are unwilling to regard themselves as 'communities', similar to the others, on the ground that their religion is part of the State, which is obliged to see that all its rules, including those of Islam, are observed—an attitude abandoned in Turkey, Egypt, Algeria, and elsewhere.

The creeds of the next four Moslem communities on the Syrian list may be described as survivals of the period of ferment through which Islam passed in the first four or five centuries of its history. They are the Shias, the Ismailis, the Druses, and the Alawis.

Shias and Mitwalis. The word *Shia* means 'party', and the name was given to the partisans of Ali, the first cousin to the prophet Mohammed and the husband of his daughter Fatima (p. 129). The party attracted numerous Persians and other non-Arab converts, who brought with them ideas which had been current in the religions which they had previously professed. One of these was the belief in the incarnation of the deity, or at least of a luminous divine substance, in a series of 'Imams' descended from Ali: after their life on earth the Imams disappear from the world until the day when one of them comes as *Mahdi*, the 'guided of God', to open the Messianic age.

The Shias broke up into different sects at an early date. In Syria the most important are the *Mitwalis*, who belong to the Shia sect of 'twelvers' or *ithna asharin*, so called because they look for the second coming of the twelfth Imam, a boy who disappeared mysteriously down a well in Baghdad about A.D. 874. Pious Mitwalis are said to proceed once a year to the well to look for signs of his return. Most of the Mitwalis live in the Lebanon and Bekaa, where they are



PLATE 80. *Ruwalla tribesman*



PLATE 81. *Beduin boy of the Oggedat*



PLATE 82. *Druse women*



Plate 83. *Yezidi*



Plate 84. *Armenian coffee seller*



Plate 85. *Beduin encampment*

an organized body with religious courts which apply their own law. The Shias in the Syrian Republic have tried to become attached to the Lebanese community or to have a special organization of their own, but the Sunnis have opposed any change, so far with success.

Ismailis. The Ismailis belong to a sect of Shias which broke away from the rest after the death of the sixth Imam about A.D. 797. He had disinherited his elder son Ismail for drinking wine, and nominated his second son Musa el Kazim as seventh Imam, but a small number of Shias regarded the drunkenness of Ismail as evidence that he accepted the hidden meaning and not the legal precepts of Islam. They accordingly recognized Ismail as the seventh Imam, and remained attached to him who became 'the Lord of the Age, the Master of the Hour, the last incarnation of the Universal Reason and Soul which should deliver souls imprisoned in matter'. They may accordingly be regarded as 'seveners'. This was the sect to which the Assassins belonged at the time of the Crusades. Their present head is an Indian Prince, the Agha Khan. They are fairly numerous in some parts of the Syrian Republic but not in the Lebanon.

Druses. The Druse religion may be counted as Islamic, though it has many extraneous elements. It is said to have been founded by two Ismailis in the eleventh century and to have taken its name from one of them, Ismail ed Darazi. It is an esoteric religion communicated only to the fully initiated, who are said to believe in seventy historic incarnations of the deity, the final incarnation having been in the person of the mad Fatimid caliph, El Hakim. They hold the doctrine of transmigration and are monogamous. Women are admitted to their services, which are reported to consist only of readings. There are two classes, the *Ukkal* or intelligent, and the *Juhhal* or ignorant. Their religious literature consists of the 111 treatises of Hamzah, their chief prophet. They are a fighting people, who have defended their independence for centuries and on various occasions have played a large part in local history (p. 143).

The sect originated in the Lebanon whence many migrated, first in 1711 to the deserted Hauran and Jebel Druse, and again in 1860 after violent conflict with the Maronites. The most powerful section of the community is now concentrated in the Jebel Druse, but there are still more than 50,000 in the Lebanon. Their attitude has generally been pro-British.

Alawis. The original name for these people was Ansairi or Nusairi, a name which may be derived from the word Nazerini, a local tribe known in the Roman period. Others have derived it from a certain

Ibn Nusair, who may have been an Ismaili living about the end of the ninth century, or from an earlier man of the same name. In ritual and belief they are much farther removed from orthodox Islam than Shias, but little that is definite is known about their religion. They have a sacred book, called Majmu, and their creed is probably a mixture of extravagant Shia and Ismaili doctrines and ancient heathenism including the doctrine of transmigration. They honour a Trinity which consists of the Prophet Mohammed, his cousin Ali, and Salman the Persian, a companion of Mohammed; they observe various Christian festivals including Christmas, and have no mosques or temples, but hold celebrations at night in private houses when they offer incense and drink consecrated wine. Women are excluded from their ceremonies. They are a backward community of peasants who have never moved far from their original agricultural holdings, but they are of considerable political importance, because they are the most powerful body in the government of Latakia, which for a time was known as the State of the Alawis. The official name is now Alawi in Arabic and Alaouite in French, but this term is political rather than religious in its significance, purely meaning an inhabitant of the Alawi province.

Yezidis. These folk, by origin a Kurdish people, usually described as devil-worshippers, can hardly be classed as either Islamic or Christian. Their faith is a mixture of early pagan beliefs, Zoroastrianism and Nestorian Christianity, with a few Islamic elements. They hold that the world is ruled by an evil spirit, Malak Taus, who must be propitiated. The main body of the Yezidis lives north-east of Mosul in Iraq and Turkey.

THE CHRISTIAN CHURCHES

The Eastern Churches which are represented in Syria fall into two main groups; the three Orthodox Churches, independent and not in communion with one another, and the five Uniate Churches. The Uniates are in obedience to Rome, but have their own organization and their own priests, who are allowed to marry. Somewhat apart are the Nestorian Assyrians. Except for the Armenian and Assyrian Churches, all these communities are indigenous to the country, and have a complex ecclesiastical history which reaches back to the Byzantine period. The distinction between Orthodox and Uniate is disciplinary and doctrinal, but does not always apply to customs and liturgy. The four independent churches—the three Orthodox and the

Nestorian—have a membership of nearly 350,000; those in communion with Rome total more than 360,000.

In point of numbers, possessions, and prestige, the Greek Orthodox and the Maronites are the most important of these bodies. They owed their political prestige formerly to the Turkish *millet* system, whereby they were organized as national units (*millet*). They thus became integral parts of the governmental machine; the head of one of the greater churches or millets was a high functionary of State who in the capital had the right of audience with the Sultan, and in the provinces became *ex officio* a member of the provincial administrative council. The millet, functioning through its own court on which laymen as well as clericals sat, was within limits an autonomous body, both in religious matters and in such questions as marriage, dowries, divorce and alimony, civil rights, and, in some cases, testamentary dispositions. Sentences pronounced by these courts, if within their competence, were executed on their behalf by the State. Similarly, since the French occupation elective bodies have been chosen on the basis of communal representation.

Uniates

The *Maronites*, of whom the vast majority live in the Lebanon, form the largest Christian congregation in Syria and are the oldest of the Uniate Churches. As befits a local church, they use the Syrian rite known as the liturgy of St. James the Less, and their liturgical language is Syriac. They have also rubrics in Arabic written in Syriac characters of the Karshuni script. Formerly of the 'monothelete' heresy, they abjured this in 1215, and since the twelfth century they have been in communion with Rome. Their head is styled the Patriarch of Antioch and the whole East; he spends the winter at Bherki near Juneh, and the summer at Bdiman near Bsharreh.

The *Syrian Catholics*, another local church, use the same rite and the same liturgical language as the Maronites and have a similarly ancient history, having seceded from the Jacobites (*below*). Their head is also called the Patriarch of Antioch and lives at Beirut.

The Greek Catholics differ little in rite and liturgical language from the Greek Orthodox, both using the Byzantine rite based on the 'mass of St. John Chrysostom', in either Greek or Arabic indifferently. They too have a Patriarch of Antioch who lives either in Damascus or in Egypt.

The *Armenian Catholics* and the *Chaldean Catholics* are the churches of immigrant peoples. The former represent those Armenians from

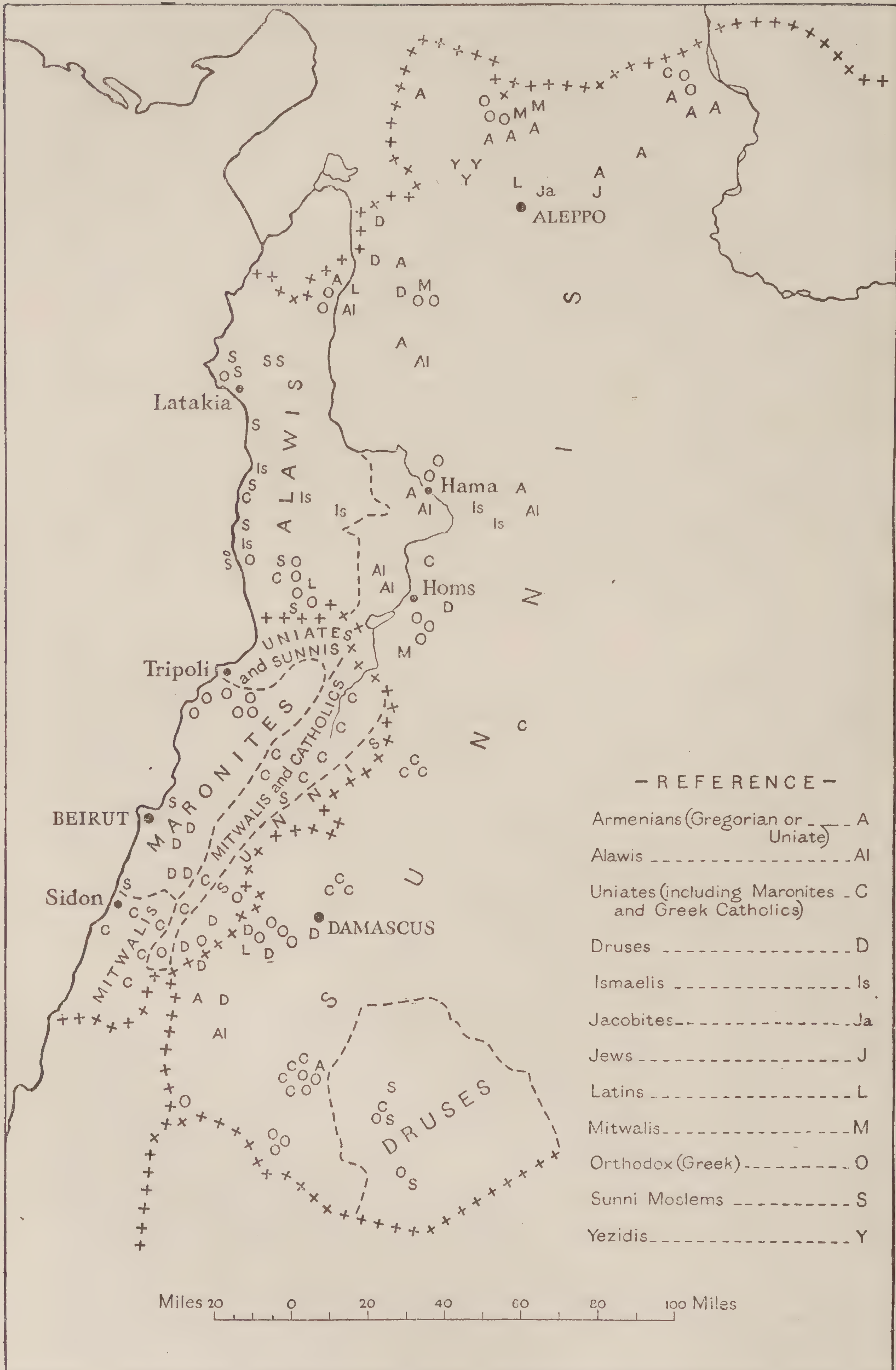


FIG. 38. *Distribution of religious groups in western Syria*

Cilicia who joined the Crusaders and fell under Roman influences. Their rites and usages closely resemble those of the Armenian Orthodox Church from which they broke away, and their language is Armenian. Their Patriarch lives at Istambul or at Azzam near Beirut. The Chaldean (or Assyrian) Catholics derive from a schism within the Nestorian Assyrian Church of Mesopotamia (*see below*), from which they separated in 1552. They are ruled by a Patriarch of Babylon who lives at Mosul.

Orthodox

The *Greek Orthodox*—sometimes known as the Melkite Church—is the next largest community after the Maronites. They use the Byzantine rite and celebrate mass in Greek or Arabic. Their Patriarch of Antioch lives in Damascus. An offshoot is the *Syrian Orthodox* or *Jacobite* Church, which dates back to a 'monophysite' communion of the sixth century; like the Maronites and the Syrian Catholics, which are also local churches, they use the Syrian liturgy of St. James the Less, but in a more archaic form, and their liturgic language is Syriac; but the Syrian Patriarch lives in Iraq.

The *Armenian Orthodox* or *Gregorian* is the national church of the Armenians, and has a very ancient history reaching to pre-Byzantine times; compared to it the Armenian Uniates are of very recent origin. Their rite is a mixture of Byzantine and Syrian elements and is celebrated in Armenian. They are subject to the Catholicos or Bishop of Armenia and to the Armenian Patriarch of Jerusalem.

Two other communions call for mention, the Latins and the Nestorians. In Syria the *Latin Church*—which is the Eastern name for Roman Catholics—is a residue from days when Western missionaries sought to convert the Eastern Christians to the Roman Church. This practice has been denounced by several popes, and in 1894 Leo XIII decreed that any Roman priest who persuaded an Eastern Christian to adopt the Latin rite should by that very act incur suspension from sacerdotal functions. The Latins are in communion, of course, with the Uniates.

The *Nestorian Assyrians* (*see* p. 155) are in a class by themselves and in communion with none. They are a detached fragment of the early national church of Mesopotamia and Persia, which derived from the teaching of Nestorius (*floruit* A.D. 430). Their customs are distinct and they have their own liturgy, one form of which is the most ancient in Christendom. Their head is an hereditary Patriarch (Mar Shimun) who is at present an exile in America.

DISTRIBUTION OF RELIGIOUS SECTS

To understand the recent history of the country it may be said very generally that more than half the population of the Lebanese State is Christian and largely Maronite, but that the Lebanon has also a large minority of Druses and Mitwalis, whereas the Jebel Druse has a compact community of Druses (Fig. 38). The province of Latakia is mainly inhabited by Alawis.

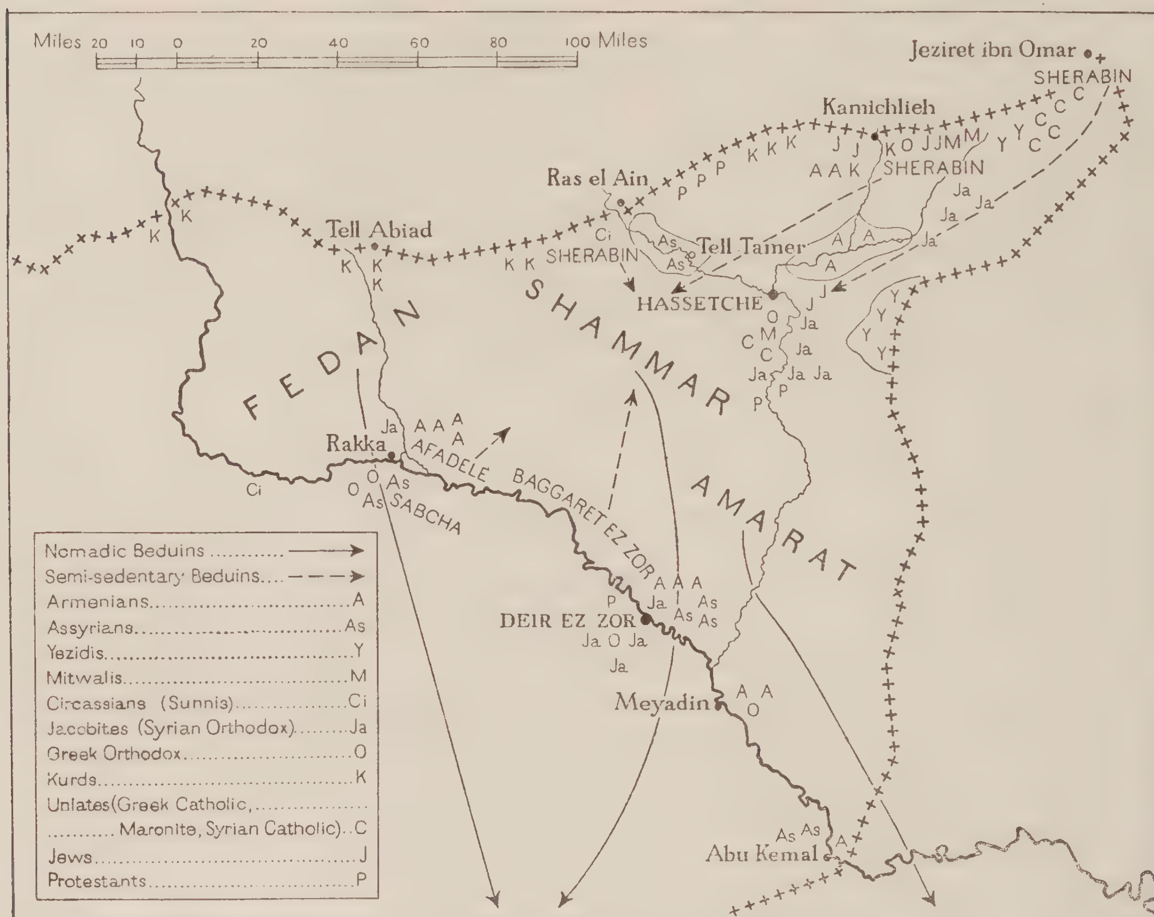


FIG. 39. *Religious or racial minorities and Sunni beduin tribes of the Jezireh*

The Jezireh has peculiar features. It is a country of refugees, particularly Kurds, Assyrians, and Armenians, in their various congregations, together with some Syrians of the Jacobite confession (Fig. 39). Few of these folk speak Arabic, and most have entered the district since 1918, before which the Jezireh was populated only by Sunni beduin, who still form a large element.

The main districts of the Syrian Republic are relatively homogeneous as far as the Moslem population goes. Heterodox sects have local importance at such places as Homs, Hama, and Aleppo, but in

general are swallowed up by the preponderance of the Sunnis. The same may be said for the much subdivided Christian minorities, except that they gain an importance out of proportion to their numbers because they are mainly town-dwellers, and in the towns are numerically less overshadowed by the Moslem majority. A more detailed analysis will be found in Chapter VIII.

Comparatively little trouble seems to have resulted in recent days from all this diversity and intersection. Fracas between Alawis and Ismailis have been reported to the League of Nations, and there have been disturbances in out-of-the-way places elsewhere. The refugee population of the Jezireh distrusts the Damascus government and is distrusted by it, Kurds and Christians tending to join hands against the Sunni Syrians; attempts to proselytize have provoked reactions from time to time; most Turks and Circassians are convinced of their superiority to any Arabs, with resulting tension and so forth. Against all this must be set much genuine fraternization between the different elements; the young of all confessions sit beside each other at school, and in all but the most backward districts sectarian bitterness is becoming more and more attenuated; Druses, as was said above, have made common cause with Sunnis and with Christians. In the Syrian melting-pot, as elsewhere, minority problems have only been acute when they have been fomented by external agents.

Way of Life

Town and Country

The economic basis of life in Syria is agriculture, from which practically the entire wealth of the country is derived (apart from some small-scale industry, mainly at Beirut). Hence the conditions under which the bulk of the population live are best described in connexion with agriculture (Chapter X, below). But this agricultural population supports a surprisingly large urban community (p. 192). The cities are by origin market-centres, and that is still their function, but their influence does not appear to be beneficial. They drain the countryside of its wealth, either by extortionate rents or by usurious loans or by the rigorous exploitation of market prices, without making any adequate return to the peasant population (*see* p. 267 below). In the Lebanese State and in the province of Latakia the economic preponderance of the towns is less marked. Latakia, Tripoli, and Beirut are centres of export for the more valuable products of the countryside and help to enrich rather than to depress the peasants.

In general the cities house the money-lending and land-owning class, which, apart from its economic activity, plays its part in the life of the country by forming the politically self-conscious and educated element.

Two new types of town have recently appeared in Syria. Beirut, the Lebanese capital, is a modern commercial city with a certain amount of light industry, complete with a detached residential suburb at Juneh. Also, in the Lebanon, summer resorts are being developed at high altitudes. These are frequented by the richest classes of Syria and neighbouring countries, particularly Egypt. Ain Sofar and Aley (below, p. 221) are examples.

Rural Settlements

Even the towns and cities of Syria contain a proportion of agricultural workers who go out daily to their labour in the adjacent countryside; Tripoli has a particularly high proportion of such, perhaps half the population. But the bulk of the peasant population lives in villages which vary in size from 300 to 2,000 or 3,000 strong. Lack of security has in the past prevented the development of small hamlets and scattered farmsteads. The geographic situation of the villages varies considerably in detail but is determined by certain fixed principles: accessibility of land, climate, water-supply, security. These factors are most clearly illustrated in the Lebanon. There must be cultivable land near at hand, but since good land is scarce the villages are built on the barren rock and do not intrude upon the good land. Only where other economic factors intervene, as at Beirut, is good land used for building. At high altitudes—above 3,000 feet—the villages face south, in order to be tolerable in winter. At lower altitudes they face north, to mitigate the worst of the summer heat. For similar reasons they are built high up rather than down in the valleys, and sometimes face west to catch the maritime influences. In the coastal regions also and the narrower plains, such as Bekaa, villages are built not down on the plains but on the ridges surrounding them, at an elevation of 300–500 feet above the plain. The maximum inhabited altitude would seem to vary from about 2,300 feet in north Lebanon to 4,500 feet in the central Lebanon. Only summer resorts, which are not occupied in winter, are ordinarily built above 4,000 feet. The greater habitable altitudes are found away from the sea.

The water-supply is not always within the village. To fetch water may involve a descent of many hundred feet to the valley-bottom. This was determined in the past by the factor of security. In valleys



PLATE 86. *Courtyard and liwan of Aleppo mansion*



PLATE 87. *Square house of central Syria*

PLATE 88. *Druse guest house*



PLATE 89. *Lebanese houses at Ras Baalbek*

of Lebanon, Anti-Lebanon, and Hermon which are defended by nature against surprise attacks it was not necessary to have a water-supply within the village itself; but where the valleys are more open the individual village becomes a stronghold and needs to have water within the ring of buildings. Villages are not fortified, but where necessary sites are chosen that are particularly inaccessible, and in some parts of the Kalamun the houses of the villages are built with all their exits facing inwards so as to form an easily defended wall. Usually the total lack of roads and the abruptness of the countryside was sufficient fortification. In the plains of central Syria conditions are entirely different. Here the villages lie open and defenceless, and have had a very different history from that of the independent peoples of the mountainous south.

Beduin

Tribal terminology is a difficult science; the subdivisions and political combinations are hard to follow and often impermanent. There are six main groups of nomads which are subdivided into tribes and clans. In addition there are the remnants of shattered tribes, sometimes containing only a few dozen families or tents, which have long lost their political importance but not their tribal identity. The six large groups are: the Ruwalla, Feddan, Amarat, Sba (these four all have historically a common origin as Haneze Arabs), Shammar, and Ahl el Jebel. The most important of these are the Ruwalla and the Shammar. The Ruwalla are camel-nomads migrating between Damascus or Homs and the Iraqi Hamad south of the frontier. The Feddan, ancient rivals of the Ruwalla but themselves divided into two hostile groups, are found in summer between Aleppo and the Euphrates, while in winter they move south into the Iraqi Hamad. The Amarat—likewise divided into two hostile sections—range from the Euphrates around Abu Kemal southward into the Iraqi Hamad. The Sba frequent the central Hamad from Abu Kemal westward to Hama and Homs; they too are rivals of the Ruwalla, and were allied in 1929 with the Feddan. A minor Haneze tribe of south-eastern Syria is the Wuld Ali, who were once paramount, but have lost their old position to the Ruwalla, and are now sheep-raising nomads. (Figs. 39–40.)

The Syrian or western Shammar are the main tribe of the Jezireh. They range from the steppes of the upper Khabur in summer to the lower Jezireh in winter; the eastern Shammar are mainly confined to Iraq except for the Shammar Chrese, who inhabit the Duck's Bill

of the Jezireh in summer, moving down to the lower Jezireh in winter. These Shammar tribes are connected with those of Saudi Arabia, though they opposed them in the past, being followers of Ibn Saud's great rival, Ibn Rashid, the Emir of Hail.

The beduin of the Jebel Druse who range between the Jebel and the southern Hamad are known collectively as the Arab or Ahl el Jebel; formerly the masters of their countryside, they are now somewhat unwilling subjects of the Druses, on whom they are economically dependent (*see* Chapter X, p. 272). They have a feud with the Ruwalla and have a great reputation as fighting men.

The strict beduin control (*see* p. 185) had before 1939 almost eliminated serious tribal warfare and raiding forays, although as late as 1929 they had been fighting one another both on camels and in Fords or Chevrolets. Any relaxation of control would lead to a fresh outburst of the old feuds. They depend for their livelihood upon stock-raising, and their desert ranging is mainly determined by the seasonal pursuit of pasture for their flocks. Though many tribes own both sheep and camels, there is both an economic and a political distinction between the sheep- and the camel-nomads. The latter are the most dangerous of the fighting nomads, and their range is immense; they are also more wealthy. The sheep-nomads lack this extreme mobility and are confined by their flocks to the relatively well-watered parts of the Hamad.

A third category consists of a number of minor sedentary or semi-sedentary tribes in the steppes north of the Euphrates and on the central plains. Particularly in the Jezireh and Hauran there has been a marked tendency for these beduin to settle down as sheep-farmers making limited annual migrations, or even to adopt agriculture seriously. Sometimes one part of a tribe is semi-sedentary or sedentary, and the rest nomadic; sometimes the whole tribe makes a very local change of terrain for summer pasture. So long as they live in tents they are to be reckoned as at least semi-nomadic. Eventually they may build houses and attach themselves permanently to the soil, while still retaining their tribal designations and organizations as a matter of family tradition: this third stage of development has already been witnessed in some of the villages of the Aleppo plain.

A list of the tribal groups and subdivisions with their usual locality in summer and winter, and the number of their tents, will be found below in Chapter VIII, p. 199. Judicial and administrative arrangements are described below, Chapter VII, p. 185, and medical services

on p. 250. A list of the paramount sheikhs with their family names is given in Appendix H, p. 431.

Social Organization

The villages, where three-quarters of the people live, are generally compact, as in most countries round the Mediterranean. The houses in them are built close together, no doubt originally for mutual defence; they are more like little townships than the straggling hamlets in the north of Europe (Plates 90-3). The small but highly complicated irrigation schemes on which much of their agriculture depends, and the large areas of land which are still held communally, call for frequent consultations and discussions; rural life is interesting, and the people live in very close relations with each other. They own their own lands or are tenants of absentee landlords: hence village life is democratic, with the local council of elders as its parliament.

The unit of village life is the family, which is often a group of households living in one house or collection of houses. Life for the villager means family life. Without the co-operative effort of parents, children, and grandchildren, all would end by starving. The following anecdote is given as a parable of village life in Syria. A certain Alawi wished to marry the young Armenian nurse of a medical mission. 'But', said his friend, 'she would cost at least a hundred gold pounds and she is a little slender thing that could only do the housework. She couldn't carry the water from the village well or help you in the fields.' 'Never mind', replied the Alawi, 'I have a donkey for carrying water and I'll do the work in the fields myself. But with a wife like that my children would live to grow up. They wouldn't all die as everybody's do in this village. She would know how to keep sickness away, and I should have grown sons one day, and so would all the village if we had one such woman to teach us.'

Like the town folk, Syrian villagers have many contacts with the outer world. Emigrants who have been to North or South America or the west coast of Africa are to be found in many villages. The motor-car has brought one innovation in some parts: ancient touring cars ply between the larger centres, carrying perhaps twenty villagers at a time. Formerly the villages were extremely isolated from one another.

Housing

The conditions described above prevail over the greater part of the country, and though the characteristics of districts differ the varying

aspects of villages are mostly the result of the local differences of building material. Along the Lebanese coast the houses are built of good stone masonry: the favourite type of house is a two-storied building with a deep wide-arched veranda on the upper floor where the occupants can see, and be seen, by every passer-by, a way of life like that of fish in an aquarium, as far removed from that in Aleppo as can be imagined; the better houses are of the usual Mediterranean type: gardens and orchards are surrounded with stone walls (Plates 42, 47, in centre).

Up in the mountains of Lebanon and Anti-Lebanon the old houses are mostly of a simpler type, built of mud and stone with external steps to the roof or the upper floor; the roofs are flat, made of timber, matting, and earth (Plate 89). In quite remote places one or two more pretentious houses may be found, European in everything but their sanitary arrangements, or rather the want of them: the summer resorts, of course, are europeanized.

In the Hauran, which is a purely agricultural area, there is an interesting local style of construction. The country is timberless, and instead of wood the people use stone for all manner of purposes: in the old days they made small doors, window frames, and shutters from slabs of the local basalt, and some of these are still in use: many ceilings also are made, as in the classical period, of stone beams carried on a series of transverse arches which divide every room into a number of open compartments each about 5 feet wide—such roofs are indestructible, but the rooms are awkward places to live in. The houses often have two stories with an external stairway to the roof, which is largely used at night, and they generally stand in courtyards. The fields near the villages of the Hauran are surrounded with dry stone walls.

In the north, around Aleppo, another purely agricultural district, there is a different style of dwelling. This region also is almost treeless, timber is consequently expensive, and the people roof their huts with high conical domes built of mud-bricks. The ground plan of the hut is generally square and several of them are clustered together in the family courtyard, which is surrounded with a mud-brick wall (Plates 92-3). This too is an ancient method of roof construction; there are representations of similar huts on Assyrian reliefs.

In central Syria and the Euphrates region the houses are of a common Eastern type, built generally of mud-brick or of wattle and daub, with flat roofs, and standing in, or against, the walls of a mud-brick enclosure. The plans, or remains, of ancient houses of

Plate 90. *Karyatein on the desert border*

Plate 91. *Hasbaya in north-western Hermon*



PLATE 92. *Beehive village of northern Syria*

PLATE 93. *Ground plan of Khan esh Sheikhun, a beehive village*

the same pattern can be seen on old sites of many periods. In the Ghab area much use is made in the summer of temporary huts built of straw (Plates 87-8, 90, 94).

The nomads live in tents which they can move from place to place. These are sometimes of enormous dimensions; a sheikh's tent may be 40 yards long. They are made of woven lengths of black goat-hair with hangings to divide the men's part from the women's, and with very long guy ropes to withstand the wind (Plates 85, 95).

STANDARD OF LIVING

Country. The peasant and the town-dweller live, economically, in different worlds. For the former, life is truly Spartan. The fellah lives in a mud hut of one or two rooms, usually with no windows, four persons or more to a room, and two or three, often five or six, to a bed. His house has no conveniences whatsoever, the yard is the midden and sometimes the closet too; his living-room is bedroom, dining-room, and stable. He lives with his animals in order to protect them from theft or neighbourly malice. Pits or bored latrines are unknown. Water fetched by the women from often distant wells is too scarce for much washing: a mud-bath provides an occasional substitute. Wood fuel in many areas does not exist; dried dung, tediously collected, is used in its place. There is no artificial light, not even a rush dip: the peasant goes to bed and rises with the sun. When he is sick he lies in his corner till he is well again or dead; very occasionally the medical officer of the kaza or county may visit him, but more probably not. Distractions and pastimes he has none. An Alawite elder once said, 'We are poor people. Only the landlords have amusements and good food. For us there is nothing to enjoy in life but to lie with our wives. It is the one pleasure that neither poverty nor the government can take away from us.' Poverty is the rule, poverty such that the villagers often cannot afford the slightest improvements, such as the walling of a well. As for the women—the baking of bread, the fetching of water, and the collection of dung-fuel, itself often a two hours' task, occupy the greater part of the day (Plates 96-7).

In compensation the peasant can—but often does not—enjoy good health. His diet (*see below*, 'Food') is monotonous but usually sufficient. The strong sunlight is a natural disinfectant, while the use of boiled milk and the total absence of professional prostitutes protect him from tuberculosis and venereal disease. Water, though scarce, is usually pure at the source, and the isolation of the villages checks the

spreading of epidemics. Again, for the men at least, work is not done by the clock; the rate of living is oriental, there is time to lie in the sun, to talk in the village square. Intellectually the peasant, though willing to learn, is usually illiterate and ignorant of the law; hence he is at the mercy of the landlord or the agents of the government, who often rob him with impunity.

Town. The life of the townsman is very different. He lives better (cf. 'Food'). Water-closets, spare beds, and even bathrooms are known to him. His house, or rather his tenement, has glass windows, sanitary arrangements exist, and water is plentiful. He earns *spare* money, however hardly, and has all the advantages, interests, politics, and vices of oriental—and many of European—urban life to distract him. For his children there are schools, libraries, clinics, and hospitals.

It should be added that this contrast between the economic level of town and countryside is less sharp in the Lebanon mountain and coastal plain—always the most progressive part of the country—than elsewhere, cf. above, 'Housing'.

Food. The peasant eats, mostly, what he grows himself. In the greater part of Syria—the plains and plateaux east of the coastal mountains—diet is very simple. Cereals are the staple food, eaten either as bread or pancakes or *borgul*, a kind of rough paste or porridge. Fat is supplied by olive oil or sheep's butter, called *semen* (*samne*) or *ghi*, and milk is consumed either boiled or as *leben*, a sort of cheese. Vegetables are very rare except in spring, and non-existent in winter, apart from onions, which with bread may then be the sole diet of the fellahin. Eggs and dried fruit, or grapes and melons in summer, are occasional variants. Meat is a rare luxury, reserved for festivals.

In the coastal districts and the richer agricultural areas inland, fresh vegetables and fruit—especially grapes, melons, figs, green sugar-cane, sometimes plums and apples, oranges and bananas—are eaten in great quantities in spring and summer. A speciality is *debs*, a mixed fruit dish. Meat is dried and preserved for winter use. Water is the usual drink; the native spirit is arak, but this is generally only for holidays and great occasions.

In the towns food is much more varied. Many dishes may be eaten at one meal. Tea and coffee are within the townsman's purse, the local wines are drunk, and fresh meat is eaten.

European Influence

Syria is in a state of transition. Like other countries in the Near East, it is becoming europeanized in culture. Turkey has travelled



PLATE 94. *Ghab thatched house with summer shelter*



PLATE 95. *Tent of sedentary beduin*

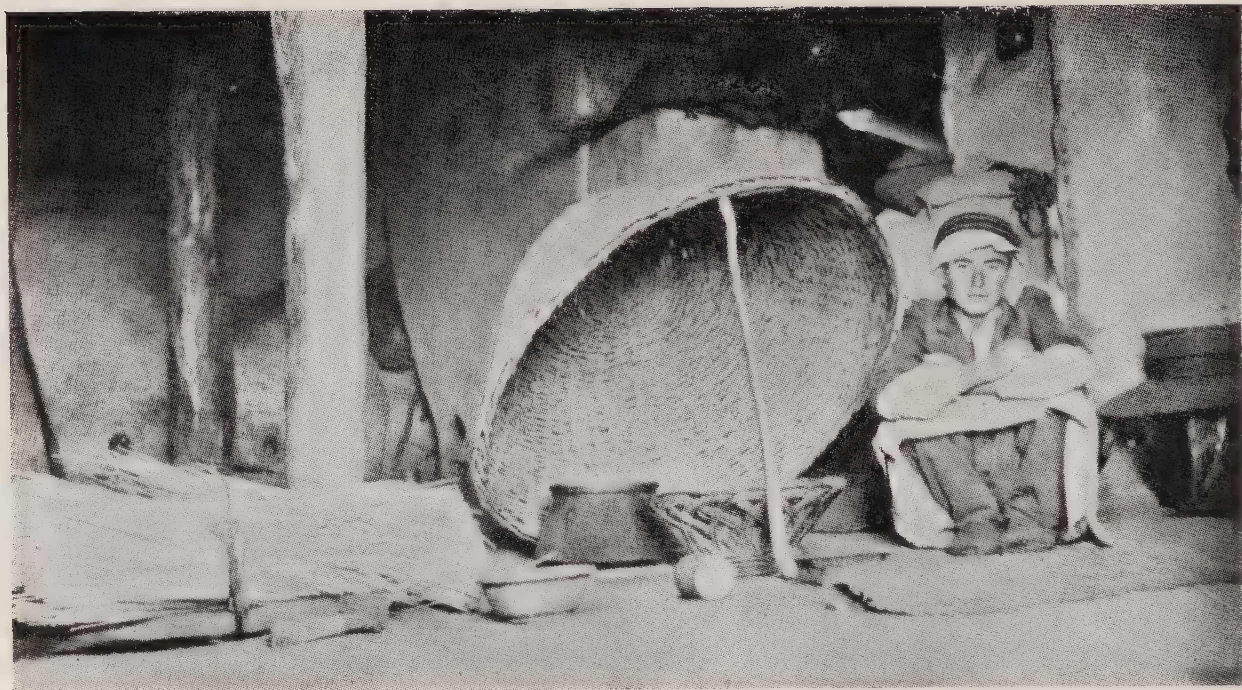


PLATE 96. *Interior of square house with kitchen ware*

PLATE 97. *Dung-fuel and cradle in Alawi courtyard*

farthest along this road: among the Arabic-speaking countries Syria occupies a middle place between Egypt and Palestine.

Dress. A hundred and twenty years ago Europeans living in Damascus used to wear the long robes traditional in the country; they could not safely do otherwise. A change began about 1830 when the Sultan, possibly under the influence of Mohammed Ali, ordered government officials to put on European clothes. A new fashion was started. It spread slowly but steadily, and Pierre Loti is found lamenting the number of European costumes which disfigured the streets of Damascus in 1894. Nowadays, in the towns at any rate, the pendulum has swung so far that long robes are relegated to small shopkeepers and artisans, and they generally put a European coat over the native *gumbaz*. In the countryside things have not changed so greatly (Plate 78). Syrians more than Lebanese are still boggling about hats. They are in a difficult position; they dislike the flowing head-gear of Saudi Arabia and also the new-fangled caps which are worn in Iraq and Persia, so like the Egyptians and Palestinians they are reduced to wearing the tarbush, though young men refuse to be photographed in tarbushes and many are beginning to go about bare-headed.

Women. A change of greater moment is taking place in the position of women. For many years American, French, British, and other missionaries have educated girls to earn their own living as schoolmistresses and hospital nurses; they worked chiefly among Christians. Even before 1914 a demand for higher education and more freedom had reached Moslem circles also. In recent years the movement has made rapid progress; girls' schools, secondary as well as primary, have been opened by the Syrian government in the larger towns. There has been no general movement to abolish the veil as in Turkey, though it has been attacked more than once, but more and more Moslem women are taking the place in local European circles to which they are fully entitled by their gifts and accomplishments.

Politics. Interest in politics is almost universal and is all-absorbing. Moslem peoples, here as elsewhere, have a natural spring of democratic feeling in their religion. This accounts for much propagandist literature and for the enormous number of newspapers which are published in Syria, many of which are frequently in trouble with the government: outside Syria also, wherever there are large Syrian communities, in South America and Mexico, for example, Syrian newspapers abound. Women feel at least as strongly as men about politics, in Syria as in Egypt. In Damascus upper-class women, discreetly veiled and gloved like their Egyptian sisters, have demon-

strated in the streets and gone upon deputations to the authorities dressed in the latest Paris models. One school-mistress is said to have told her girls that it would be their duty to poison their fathers if they voted against the national cause.

Much encouragement has been given to young students in the schools to regard themselves as champions in the fight for political independence. School strikes have been frequent, as in Egypt. Some secondary classes in Damascus are reported to have worked for only eight days in the year. The scout movement also has taken on a quasi-military colour, like the youth movements of Italy and Germany.

It is impossible to tell what the next development will be. In their schools and universities the French and the Americans have both been trying along different lines to mould young Syria, but in most cultural fields they have a powerful rival in modern Egypt. Egyptian periodicals, plays, films, and entertainers are reported to have the greatest vogue to-day. The Syrians may evolve an original civilization of their own. At present they are still in a state of transition. No Syrian naturally labels himself a Suri or a Libnani as the case may be; he still belongs to this or that sect, or he comes from such and such a town; in this respect he is behind the Egyptian. The past lies heavily upon them, in particular the difficult classical language of which they are very proud.

CHAPTER VII

ADMINISTRATION

SINCE the beginning of 1940 the situation in Syria and the Lebanon has been abnormal, and the system of administration which is described in this chapter is that which was in force immediately before the present war and has remained the basis of government despite successive political crises.[1] This system marked a stage in a process of evolution which started with the institution of the mandate. By the terms of that instrument the Mandatory accepted responsibility for the foreign relations and defence of the two countries, Syria and the Lebanon; for their administration in accordance with principles which were laid down; and for the enactment of measures to facilitate their development as independent States. At the stage reached in 1939 France still managed the foreign affairs and defences of the two countries as well as certain services which were of common interest to both, but had ceased for more than two years to exercise close control over their internal affairs, though still maintaining a staff capable of resuming this control. The conduct of public affairs is consequently divided between three principal administrative bodies, the High-Commissariat at Beirut, which is the headquarters of the Mandatory, the Government of the State of Syria at Damascus, and the Government of the Lebanon at Beirut; in summer the latter moves in part to Aley.

The High Commissariat

At the head of the High Commissariat is the High Commissioner, who is the representative of the French Republic in both Syria and the Lebanon. He has a civil and a military cabinet. A Secretary-General and an Assistant-Secretary-General direct the various services under him and replace him when he is away. These services, diplomatic, legislative, political, and technical, are mostly administered in or from offices which are housed in a huge barrack at Beirut, called the Great Serail.

In the States the High Commissioner is represented by delegates and assistant-delegates, the former stationed at Beirut, Damascus, Latakia, and Suweida, the latter at Aleppo, Hassetche, Homs, and elsewhere. It is their duty to control the acts of the State Govern-

[1] Recent developments are discussed in Appendix H, p. 422.

ments. The technical advisers of the States' Departments are under their authority, as are the officers of the *Service Spéciaux*, a military intelligence organization whose duty it is to keep the High Commissioner informed about the state of public opinion and about important events all over the country; one officer resides as a rule in each administrative district (*kaza*).

The technical services of the High Commissariat are subdivided into *Les Organes du conseil et de contrôle du mandat* (the mandatory organs of advice and control) and *Services communs*. The former include the criminal investigation department (the *Sûrété Générale*), an Education office, Public Health and Quarantine offices under which the assistance of Armenian and Assyrian refugees falls, an Antiquities service, an office for the control and administration of religious endowments, a bureau for the control of the land registration services, the bureaux of the Inspector-General of public works and of the Inspection of the merchant marine and fisheries. With the gradual devolution of power to the two State governments the work of some of these services has been much reduced, especially that of the criminal investigation department. The Services communs include the Customs, the Inspection of Posts and Telegraphs, the control of concession holders among which are the railways, the pilgrimage and quarantine service, and an office for the protection of patent and copyrights.

In 1938 the French personnel in the political and administrative services of the High Commissariat numbered 79, those in the technical branches numbered 198, and those engaged and paid directly by the States (advisers in the different ministries, magistrates, teaching staff, engineers, and technicians) 101.

The State of Syria

Central Administration. The head of the State, which is described as a Parliamentary Republic in the Constitution of 1930, is called the President of the Republic. He is elected by an absolute majority of the members of the Chamber for a period of five years and is only eligible for re-election after an interval of like duration; he must be a Moslem. The President selects the Prime Minister and appoints the Ministers on the Prime Minister's nomination. He has the prerogative of pardon, but in other respects his powers are strictly limited; if he thinks fit he can return a measure to the Chamber for further discussion within a month of the date of its transmission to the Government, but if the Chamber confirms its previous vote

by a two-thirds majority, the law comes into force and must be promulgated.

The Chamber of Deputies is elected indirectly by universal male suffrage for a period of four years. It is the supreme legislative body in the State. Deputies have the right to initiate legislation and to question Ministers. The budget is submitted to the Chamber. Such treaties with foreign States as the President is empowered to conclude and sign do not come into force until they are adopted by the Chamber. By a two-thirds majority the Chamber can revise the Constitution.

The Ministers are the heads of the different State Departments (Finance, Justice, the Interior, Education, Public Works, Agriculture) and represent them in the Chamber, of which they are not necessarily members. The Ministers, who are not to exceed seven in number, with the Prime Minister, form the Cabinet and are jointly responsible for the general policy of the Government, and individually responsible for their own departments: the Minister concerned has to countersign every document issued by the President. Under the Ministers there are Director-Generals in the departments and French advisers, the latter being appointed by the President on the nomination of the High Commissioner: the advisers have a right of inspection, which, however, they did not exercise in the period 1936–9 when the States were given autonomy in internal affairs.

Local Administration.

The districts of Latakia and the Jebel Druse were parts of Syria from 1936 to 1939, being administered by local councils under the presidency of an officer appointed by the President of the Syrian Republic; their magistrates were officials of the Syrian Ministry of Justice; of the local revenue they contributed 5 per cent. to Damascus, retaining the rest for local expenditure. The *Jezireh* likewise was administered after 1936 as a Syrian mohafazet, but local resistance to officials from Damascus made it necessary for the High Commissioner to re-establish a French Inspector with extraordinary powers to assist the mohafez (*above*, p. 148).

The local government of the provinces is under the Ministry of the Interior. As in the Turkish period, the country is divided into provinces, districts, and communes, the last being composed of a number of villages or wards. The district, which is composed of several communes, may be compared with the English county. The following list gives the provinces of Syria and their administrative centres (Fig. 2, p. 4).

Province	*Capital*
Damascus	Damascus
Aleppo	Aleppo
Homs	Homs
Hama	Hama
Hauran	Deraa
Euphrates	Deir ez Zor
Jezireh	Hassetche
Jebel Druse	Suweida
Latakia	Latakia

The province, known as *mohafazet*, a title which replaces the Turkish *vilayet*, is administered by a civil servant called *mohafez* (instead of *mutessarif*), who corresponds to the French prefect. He is assisted by a provincial council, one-third of the members of which are nominated by the Government and two-thirds chosen by electoral colleges which represent the professional, religious, and economic interests of the region. Districts and communes are called as formerly *kazas* and *nahiyas*, the head of a kaza being a *kaimakam*, while the head of a nahiya is the *mudir*. These two groups serve mainly as administrative units of the central government; the kaza, but not the nahiya, has a local elective council under the presidency of the kaimakam, which controls the administration of the villages and municipalities of the kaza; the mohafez, the kaimakam, and the mudir, as civil officers of the Ministry of the Interior, are liable to be transferred from one end of the country to the other. The cities and small towns and even the larger villages may become municipalities with local councils, of which there were 116 in 1938. Elective municipal councils are not always a success. Religious differences or peculation and nepotism make it necessary at times to supersede elected councils or to replace their mayors by functionaries, either the mudir of the commune or the kaimakam of the district to which the municipality belongs. As many as sixty councils were thus suspended in 1936.

The village—which is the most important unit in Syria—and the town-ward is under a headman and a council of elders. The headman of the village, or *mukhtar*, serves always in his own home: he may be elected by his village or nominated from among the village notables by higher authority. The mukhtar and the elders are supposed to look after the cleanliness of the village, the purity of the drinking-water supply, the condition of foods exposed for sale, and to encourage the people to send their children to school. The mukhtar also supervises the cultivation of the land, particularly in the communal

villages (*below*, p. 265), and appoints the village 'guardians of the fields', who are paid small sums to see that no peasant encroaches on his neighbour's land and water supply or steals his crops.

The functions of the higher local authorities and municipal councils are similarly concerned mainly with the public utilities of the place, which vary with its size and resources. Revenues are derived from a multitude of local taxes and dues: in 1938 the Damascus municipality had a revenue of 15,800,000 francs, whereas a small place like Ain Divar in the Jezireh raised only 8,140. At Damascus the local authorities are responsible for the supplies of water and electricity, for the upkeep of the roads, the slaughterhouses, the public gardens, the ferries, and even for a scheme of poor relief. A list of the more important municipalities and of the districts is given in Chapter VIII, p. 220.

The well-being of a country depends vitally on the competence and honesty with which these services are conducted, and hence on the personality of the officers directing them. In Syria, as in other countries, local authorities are a favourite target for critics; many mukhtars have been dismissed for negligence or dishonesty; in particular—as in many countries where the machinery of local government has been similarly centralized—political influences are said to have had a baneful effect upon appointments and transfers.

The State of Lebanon

The organization of the Lebanon Republic is in general like that of Syria. The President of the Republic, who may be either a Christian or a Moslem, is elected in the same way, but for six years instead of five, and his powers are similarly limited. In practice the President has always been a Christian and the Prime Minister a Moslem. The Chamber of Deputies is rather differently constituted; two-thirds of the sixty-three members are elected and one-third appointed by the President after adoption by the Cabinet. The nominated or 'senatorial' members are chosen from the different religious confessions in fixed proportions. Any Lebanese citizen over 25 years old who is not illiterate and has not lost his civic status is eligible to be a deputy.

The Constitution contains various references to the mandate which are absent from the Syrian Constitution. A Lebanese delegation was to be set up in Paris, and Lebanese attachés appointed with the French diplomatic and consular representatives where the number of Lebanese residents made this justifiable. Close contact with Lebanese

emigrants was to be maintained, but it does not appear that any action has been taken in these directions.

The subdivisions of the Lebanon do not correspond at all to the former Turkish arrangements (Fig. 2, p. 4). There are five provinces (*mohafazets*):

North Lebanon (capital, Tripoli)
South Lebanon (capital, Saida)
Lebanon Mountain (capital, Baabda)
Bekaa (capital, Baalbek) and Beirut,

of which the city is the capital, but these have no provincial councils. The provinces are divided into eighteen districts (*kazas*) and the districts into communes (*nahiyas*) as in Syria. A list of districts will be found in the gazetteer (p. 220). The municipal system is not quite uniform. Beirut has a council which in theory is renewed every four years, and which consists of fifteen elected members and four members nominated by the U.S.A. and by countries belonging to the League of Nations. In other municipalities representation is similar to that in the Chamber of Deputies.

Administration of Law and Order

The Judicial System

In both States there are three different kinds of courts: civil courts, known as *nizamieh*, religious courts known as *sherieh*, and 'mixed courts'. The civil courts deal with all penal, commercial, and civil cases excluding those concerned with personal status, marriage, divorce, inheritance, guardianship. These latter all come before the religious courts—either the sherieh courts of the Sunni Moslems or the confessional courts of the other religious communities. In many cases (except marriage and divorce) the Moslem sherieh is superior to the other religious courts and may intervene in their jurisdiction. Attempts have been made—mostly without success—to limit the religious courts solely to marriage, divorce, and closely connected issues.

The 'mixed courts', in which the bench may have a majority of French judges, replace the former capitulations system which allowed extra-territorial jurisdiction to foreigners. They deal with cases in which foreigners are involved, but by a remarkable development it is permissible in some circumstances for citizens of Syria and Lebanon to bring their case before a mixed court instead of the nizamieh court. This practice has been increasing of recent years, because of the freedom of the 'mixed courts' from external influences.

The code of the nizamieh courts, which is also used in the 'mixed courts', is based on that introduced in 1879 when the nizamieh were set up, and later modified by legislation of the Syrian governments or by edicts of the High Commissioner. The penal and commercial code, and the penal and civil procedure, are based on the French code, but the civil code in use is in essentials the Ottoman code commonly called *mejelleh*. The religious courts—both Moslem and Christian—apply the canonical Moslem or Hanefite code except in matters of marriage and divorce, where the Christian and Jewish courts follow their own usage.

The organization of the nizamieh courts is the same in both States. There are supreme courts of cassation at Damascus and Beirut; courts of appeal in Syria at Damascus, Aleppo, Deir ez Zor, Latakia, and Suweida, in the Lebanon at Beirut; below these are the courts of First Instance and also of the Justices of the Peace, who usually are to be found in the kaza administrative centres. Their personnel is Syrian or Lebanese. The 'mixed courts' have the same organization but are only found in the great cities. The sherieh are found one in each kaza; there are no higher or lower courts except for a supreme court at Damascus; the old Moslem personalities are to be found in them: the kadi is the judge, and the mufti is his legal adviser. The non-Moslem religious courts are organized as courts of First Instance and appeal, with a supreme court under the presidency of the patriarch or archbishop concerned. In the province of Jebel Druse the religious courts are replaced by two special courts of personal status for Druses and Moslems.

Land Registration

Under the Turkish regime there was a system of land registration —the *defter khaneh*—but the evidence on which titles were based was often very flimsy, nor was the documentation of transfers adequately maintained. In the War of 1914–18 many documents and registers were destroyed. Hence one of the first tasks which the mandatory power had to tackle was the establishment of a Book of the Land—*Livre foncier*—in which the title to every property was documented. It was necessary to carry out a topographical survey and at the same time to hold a series of inquiries into the ownership of land in the area being surveyed. A topographical service and a judicial commission were established as part of the Land Service which, with the co-operation of the State governments, have been at work since 1929, and in the following ten years succeeded in completing the land survey of

practically the whole territory of Syria and the Lebanon. Every property is now recorded in the Livre foncier, in which all later transactions are also recorded. An official copy of the entry in the Livre foncier is the certificate of ownership.

The Land Service also undertakes the task of redistributing communal lands on the request of the villages concerned, where such redistribution is desirable (*see below*, p. 266). Each State has its own land service. In Syria an important task of the service is the administration of the extensive State domains. The work of the Land Service was clarified by the publication in 1930 of a new Land Code. Though based on the mejelleh and local tradition, this code owes much to the systems of French North Africa and to the Swiss civil code. All forms of ownership except Wakf (*below*) and Mulk (*below*, p. 264) are controlled by this code.

Wakf

Wakf, an institution common to most Moslem countries, is real property held in trust either for purely religious and charitable purposes—*wakf khairieh*—or for a family endowment—*wakf zorrieh.* Its administration is extremely complicated and has been a bone of contention, particularly in the Syrian Republic. Each kaza has a special elective committee for the administration of most of the local wakf khairieh, those known as *mazbuta* being administered directly by the committee and its officials, while another sort, called *mulhaka*, is under the general supervision of the committee but is administered by a semi-independent agent known as the *mutewali*, together with a remarkable number of other assistants. Since 1934 all wakf zorrieh, and also the kind known as *mustessenat* (which is administered by a fully independent mutewali), has been under the supervision, not of the kaza committee, but of the religious courts (*see above*). The kaza committees are themselves supervised by a general council for the inspection of wakf, in both the Lebanon and Syria. The functions of this council are both legal and judicial. It should be borne in mind that the administration of the wakf is not a State department but an organ of the orthodox Moslem community, though this distinction between 'Church and State' is still unpopular with the stricter Moslems, particularly in connexion with wakf. Hence it was over the election of the general council that trouble arose in the past.

The non-Moslem, and also the heretical Moslem, communities of Syria and Lebanon have their own forms of wakf, similar to the above, but with a far simpler organization. The mutewalis are

under the general control of the heads of their respective religious communities.

The Armed Forces

The French before the present war maintained armed forces in Syria which consisted partly of regular French units and partly of *Troupes spéciales du Levant.* These latter were mainly local in personnel, recruited by voluntary enlistment, and normally consisted of about ten infantry battalions and twenty squadrons of cavalry, two or three batteries of artillery, and other units. In 1938 the total strength of these forces was about 10,000 men, of whom only 215 were French, while 218 officers out of 306 were native. A military school for the training of officers existed at Homs. A national Syrian and Lebanese army was thus being gradually created.

In 1937 the establishment of independent Syrian and Lebanese armies was proposed. The maximum strength of these forces was limited by financial considerations. The Syrian army was to consist of one infantry division containing five battalions, three light desert companies and an artillery group, a brigade of cavalry of twelve squadrons, and the necessary engineering, supply, and maintenance units. Trained men sufficient to fill the fighting units were already available from the Troupes spéciales. The training of officers and specialists was to be provided by the military school at Homs. A General Staff was to be trained by means of special courses provided by the French army.

The Lebanese army was to consist of three infantry battalions, two cavalry squadrons, a battery of artillery, an engineering company, and a supply train. The personnel was mostly available from the French forces.

Police

The police forces of the Syrian and Lebanese republics are divided as in France into two bodies, the civil police and the military police or gendarmery. Recruitment has of recent years attracted men with either a secondary or even a university education, but it has been found that only those who have had a military training make disciplined policemen. The weakness of the two forces is the tendency to abuse of power and neglect of duties. Each year there is a relatively large number of prosecutions on these charges, about half of which end in the condemnation and suspension or dismissal of the accused.

There were 38 condemnations out of 64 prosecutions in Syria during 1938.

In the Syrian Republic the gendarmery consisted of 68 officers and 2,965 men in 1938. The majority were Sunnis with a sprinkling of other Moslem sects and 300 or 400 Christians. The officers were Syrians, but the force was under the general direction of a French commission, to which a Syrian lieutenant-colonel was attached as adjutant. Formerly there were French executive non-commissioned officers, but these have been gradually eliminated. The force consists of companies based on Homs, Hama, Aleppo, Deir ez Zor, Hassetche, and also include four mobile platoons of thirty men based on Aleppo and Damascus. An auxiliary force of special constables is also maintained, numbering up to 200 or 300. The gendarmery of Latakia and Jebel Druse are included in the Syrian administration, but enjoy a certain autonomy. These two provinces (and also the Jezireh) appear to be under-policed with a gendarmery of about 280 men and 9 officers in Latakia, and only 77 men and 1 officer in the Jebel Druse. The duties of the gendarmery cover the policing more especially of the countryside, and also the charge of prisons, the execution of the sentences of the courts, and the control of the tobacco monopoly.

The duties of the civil police seem to be mainly urban. Hence the police is a smaller body than the gendarmery. In Syria the force numbers between 800 and 900 men with some 20 administrative officers and 50 executive *commissaires*. The police forces of the Jebel Druse and of Latakia are very small, probably because of the predominantly rural character of these provinces.

The arrangements in the Lebanese Republic are similar to those in Syria. The gendarmery numbered in 1937 about 1,200 men and 45 officers under the higher command of a commission of 6 French officers. The police force then consisted of 382 policemen with 31 *commissaires* and 55 sergeants (*brigadiers* and *inspecteurs*). Of these, 309 were stationed at Beirut, 45 at Tripoli, and the rest divided between Sidon (Saida), Zahleh, and Baalbek.

Prisons

The prisons, which are under the charge of the gendarmery, not of the police, are somewhat inadequate both in Lebanon and Syria. They are to be found in Syria at Deir ez Zor, Aleppo, Hama, Homs, Damascus, and apparently Deraa, and also at Latakia and Suweida (for the Jebel Druse). The improvement of accommodation is hampered by lack of funds. The Lebanese Republic has a big prison

at Beirut, the *Prison des Sables*. Some attempt is made to segregate young offenders, to teach the illiterate to read, and to organize prison workshops and handicrafts.

Beduin control

The administration of the nomadic tribes of the desert regions is in the hands of a delegate of the High Commissioner. His central office is at Damascus and he has the assistance of four or five officers of the French 'special services of the Levant'. One officer is in charge as inspector of each of the main regions of seasonal migration, Aleppo, Damascus-Palmyra, and Deir ez Zor (*see below*, p. 198), and one is in charge of the area as a whole. Only the inspector of Damascus-Palmyra has any permanent forces at his disposal, and he has only one platoon of men. In troubled periods they receive assistance from the French armed forces, but normally they work alone.

The tribes govern themselves in their own assemblies under the authority of their sheikhs and the general supervision of the inspectors. They are represented in the Syrian Parliament, usually by pre-eminent sheikhs. The sheikhs are usually anxious to secure either French or Syrian official backing in order to secure the permanence of their position. Offences committed by tribesmen within the cultivated zones of Syria are punishable by the ordinary courts according to the common law. Offences committed outside this area are under the jurisdiction of the tribal assemblies and are regulated by tribal custom. Since 1934 the tribesmen have paid a capitation tax upon their flocks, called *aghnam*, instead of the old fixed tax called *wedi*. This tax is collected by the sheikhs for the Syrian Government.

For educational and medical facilities available for the beduin *see below*, p. 188 and p. 250.

Medical Services

The general control of public health and assistance, and also of quarantine, is vested in a director-general, who is also the director of the health services for the French armed forces in the Levant. His functions include the control of drugs and of the manufacture and importation of chemical goods. He also issues licences to doctors, chemists, and midwives, and maintains contact in matters of health with neighbouring States and the international health bureaux. In the individual States there are separate directors of public health who maintain contact with the director-general through their technical advisers. But the director-general, who has the resources of the

army at his disposal, intervenes when there are epidemics. He also has under his control the quarantine stations at the frontier, and at the ports (*see below*, p. 255).

The medical services of the province of Latakia are directed by a medical officer responsible to the provincial government. He is in charge of the organization of the hospitals and of the regional medical services.

In Syria and Lebanon the health services are a national charge, except that the municipality of Beirut has its own medical budget and organization. For details of medical assistance *see below*, p. 248.

EDUCATION

In the Syrian constitution it is laid down that primary education shall be compulsory for all Syrians of both sexes, and that it shall be provided free of charge in public schools; the curriculum is to ensure educational uniformity, and all schools are to be under government supervision. This was in 1930, but in 1938 the Permanent Mandates Commission observed that 'the proportion of children receiving instruction in Syria is still relatively low': in 1939 considerable improvement was noted, but there were the usual complaints about lack of accommodation and overcrowded classes. The same complaints had also been made on other occasions about the schools in the Lebanon where the standard, especially in some of the 'private' schools, was deplorably low and the teachers miserably paid, though the Lebanon had been undoubtedly in advance of most parts of the Ottoman Empire at the beginning of the century. It is unfortunate that no recent statistics of literacy are available, the latest, which are ten years old, being as follows:

Lebanon . . .	1932	Illiterates	56% men,	82% women.
Latakia . . .	1930	,,	76% ,,	95% ,,
Syria . . .	1931	,,	63% of total population.	

Educational institutions in the two States are classified in 1938 under three heads, (i) Primary and Elementary Schools, (ii) Technical, Normal, and Secondary Schools, (iii) Higher Schools or Universities.

In Syrian Government schools the elementary course lasts normally for four years, the primary for five, French being taught only in the two highest primary classes. Those who satisfy the examiners in the Primary Certificate examination can proceed to a secondary school. The full secondary course takes seven years; in the first six years there are three alternative sections: Modern Languages,

History and Geography, Science; in the last year two sections, Philosophy and Mathematics. As in France and Egypt the examination for the *baccalauréat* is taken at the end of the secondary course.

In the Lebanon, where much more of the education is in foreign or private hands, the duration of the different courses is not so rigidly fixed, but there are examinations corresponding to the Primary Certificate examination and the *baccalauréat*, which secure a measure of uniformity.

The following statistics give the number of registered pupils in 1938:

Primary and Elementary Education

	Government schools	*Private schools*	*Foreign schools*	*Totals*
Syria	54,353	32,404	14,299	101,056
Latakia	11,437	1,610	2,294	15,381
Jebel Druse. . . .	3,014	1,167	1,283	5,534
Lebanon	18,306	76,196	37,010	131,512
				253,483

Technical, Normal, and Secondary Education

	Government schools	*Private schools*	*Foreign schools*	*Totals*
Syria	4,158	839	2,401	7,398
Latakia	7	83	553	643
Lebanon	438	3,462	5,903	9,803
				17,844

Higher Education

Faculty	*Syrian University*	*French University of S. Joseph*	*American University of Beirut*
Medicine	122	226	118
Pharmacy	10	27	63
Dentistry	37	34	13
Midwifery and Nursing . . .	21	28	61
Law	166	206	..
Engineering	..	55	..
Oriental Seminary	..	31	..
Literature and Science. . . .	..	..	189
Oriental Letters	..	34	..
	356	641	444

Owing to financial stringency the school accommodation is admittedly inadequate in both countries, but in 1938 the number of all pupils registered—271,327—was more than double that in attendance in 1924, when the total was 123,576.

The increase has been particularly marked in Syria during recent years: since 1936, when the Syrian Government was given financial autonomy, the budgetary provision has increased from 19,098,780 francs to 32,196,100 in 1938. It is partly the expression of a new political trend; Syrians accuse their former Government of having kept them in ignorance and of having encouraged an obsolete form of oriental education which would place them at a disadvantage in the modern world. Hence a specially large increase in the number of secondary schools: Damascus and Aleppo each have two secondary schools for boys and one for girls; there are secondary schools at Hama, Homs, and Deir ez Zor, and other boys' schools with reduced secondary courses (*écoles complémentaires*) at Damascus, Aleppo, Deraa, and Hassetche, and one for girls at Homs. Unqualified approval may be given to two recent developments in Syrian education: the effort to spread education among the beduin and the provision of special classes for illiterate adults. In 1938 there were 4 permanent stationary schools for beduin, 12 permanent nomad schools, and 33 seasonal nomad schools; and 50 courses, attended by 2,423 persons, had been instituted for illiterate adults at a cost of 87,413 francs.

In the Lebanon the most striking feature is the number of schools classified as private or foreign. The government contribution to education is comparatively insignificant; there is not a single government secondary school, and only one government school of arts and crafts. Nearly all the private schools belong to religious communities—the Maronites have 424, the Greek Orthodox 244, the Greek Catholic 183, the Moslems 173, and the Armenians 120. The foreign schools also have a strong confessional complexion, most of them having been started by missionary societies or religious orders: there are 389 French schools, 71 American, 25 English, 16 Italian, 9 Danish, 2 German, 1 Swiss, and 1 Greek. Palestine is perhaps the only other country in the world where so much of the education is in the hands of foreign religious bodies.

Higher Education

Syria. The Syrian University at Damascus is a government institution which was founded in 1923. It had a budget of 3,980,978

francs in 1938 as compared with 2,471,600 in 1936. It has Faculties of Medicine and Law. The courses in the Medical Faculty are as long as those in France: instruction is given mainly in Arabic. A hospital and two laboratories are attached to the faculty. The Faculty of Law, which has been called the Bastille of Syrian nationalism, provides a three years' course: the lectures are given in Arabic.

The university has a library with some 11,000 volumes and a printing-press for the publication of medical and legal treatises, and a medical review.

The Syrian Government also supports a large number of students abroad which included, in 1938, 80 students in France, 21 at Beirut, 18 in Cairo.

Lebanon. The two universities at Beirut are both foreign institutions and both have grown out of small beginnings.

The French University, or the University of S. Joseph, has grown out of a Jesuit College and Seminary, founded in 1843 at Ghazir in the Lebanon and transferred to Beirut in 1875. The Faculties of Philosophy and Theology and the Oriental Seminary provide training for priests and missionaries—there were 31 students in 1938, the majority Maronites and Greek Orthodox. The Faculty of Medicine and Pharmacy has a training hospital, the Hôtel-Dieu de France, attached to it, also a Dental School, a Midwifery School, an Anti-rabies Institute, and Institutes of Bacteriology, Chemistry, and Physico-Therapy (a cancer institution). The School of Law is connected with the Law Faculty at Lyons and the School of Engineering with the University at Lyons, as is the Institute of Oriental Literature. The last institution has a large library which is especially rich in Arabic manuscripts.

The American University of Beirut has grown out of the Syrian Protestant College which was founded in 1866 by Daniel Bliss of the American Presbyterian Mission. The Faculty of Medicine has a training hospital, a Maternity School, a polyclinic on the Rockefeller Foundation, and a centre of Infantile Hygiene. The Faculty of Letters and Science provides, beside other matters, training in the teaching profession for many students sent from neighbouring countries: in 1938 there were 29 from Iraq, 17 from Syria, and a few from Palestine, Transjordan, Saudi Arabia, and Cyprus. Social service work figures largely among the activities of the university; a 'Village welfare Service' studies such subjects as juvenile delinquency, infantile mortality, and child labour. The numerous buildings in the grounds, which occupy a fine site overlooking S. George's bay,

include a large modern library, a museum of antiquities, natural history museums, an observatory, a large public theatre for meetings, playing-grounds, baths, and so forth. An Institute of Music with 70 students is connected with the university. Among the 444 regular university students in 1938, 150 came from Syria and the Lebanon, and over 100 from Palestine. The rest were divided between Iraq, Egypt, Iran, Europe, and America. The latter doubtless included the children of emigrants.

In educational matters the functions of the High Commissioner are confined to inspection and advice, to the control of the examinations for French certificates, to the distribution of books and prizes, and to the control of Syrian and Lebanese students who are continuing their education in France; in 1938 there were 152 of these from Syria and 83 from the Lebanon.

CHAPTER VIII

DISTRIBUTION OF POPULATION

According to the latest figures available, the population is something over three and a half millions. The last census of Syria gave a total for the settled population in that area of 2,487,027: the last census of the Lebanon a total of 1,116,000: the number of nomads varies in recent estimates from 150,000 to 250,000, but unofficial estimates make it higher.

The 1938 returns from the nine Syrian provinces are as follows:[1]

Province	*Total*	*Persons per square mile*
Latakia	371,880	159
Aleppo	752,196	93·2
Hama	137,882	51·8
Homs	192,312	45·4
The Hauran	108,603	53
Damascus	531,267	132
The Euphrates	218,667	18·7
The Jezireh	103,514	
Jebel Druse	70,706	18
	2,487,027	

The Lebanese figures are latest in date (1942); the density of population is not less than 223 to the square mile. The provincial returns are as follows:

Province	*Total*
North Lebanon	241,000
South Lebanon	198,000
Lebanon Mountain	278,000
Bekaa	167,000
Beirut	232,000
	1,116,000

These figures were received after the diagrams were completed for this chapter, which are therefore based on the previous census (1932) for the Lebanon area, and intermediate material.

It would appear that about three-quarters of the people are living in rural conditions, but the urban community is large, particularly in central Syria, where Aleppo, Hama, Homs, and Damascus have an aggregate which exceeds half a million out of a total population of about 1,600,000.

[1] For the 1942 total see p. 219.

Towns

There are three large cities, Beirut, Damascus, and Aleppo, inhabited by 150,000 to 280,000 persons, and five smaller with a population between 20,000 and 90,000, Latakia, Tripoli, Hama, Homs, and Deir ez Zor. These towns are found in western and central Syria, one in each province, except that Deir ez Zor is the only large town in the north-east (Euphrates) area and there are none in the south-east (Hauran and Jebel Druse).

There are also some twenty-five smaller places with a population usually of 5,000 or 6,000, but occasionally of 15,000, which are rather overgrown villages than towns. These are scattered throughout the richer agricultural regions, but more than half are to be found on the western slopes of the Lebanon and Jebel Ansariyeh or on the coast itself. Most of them are listed on p. 220 as administrative centres.

General Distribution

The only areas that can be said to be at all densely populated are the coastal region around Latakia city and Jebeleh, the western slopes of the Lebanon mountain, the oasis of Damascus, and the suburban area of Aleppo (Fig. 40). In these parts there is a population of 100–200 to the square mile. But in the rest of the country—and even here—it is difficult to assess exactly the density of the population. Climate, water-supply, physical relief, and soil characteristics vary so violently within short distances that general statistics give no clear picture of real conditions. Thickly populated valleys and plains may be surrounded by vast deserted regions of mountain or steppe. Population is more evenly spread out in western Syria, but in the upper levels of the southern Ansariyeh the density declines rapidly from 50–100 to 5–25 persons to the square mile. Violent contrasts are characteristic of the Anti-Lebanon and of Damascus province, where one passes rapidly from the oasis area with its heavy population to the thinly populated steppes and the almost empty Hamad. The more fertile parts of the central plains are similarly flanked by half-empty regions such as the Ghab and the swamps of the Kuweik Su.

A clearer indication of local conditions is given by the frequency of the villages and small towns in which the rural population lives (*see below*; Figs. 41–5), particularly in relation to the area of cultivated land in each province. Only in the Aleppo province of Syria is

there as much as one village for every 3 square miles; elsewhere this proportion varies, in central Syria, between 1:6 and 1:14.

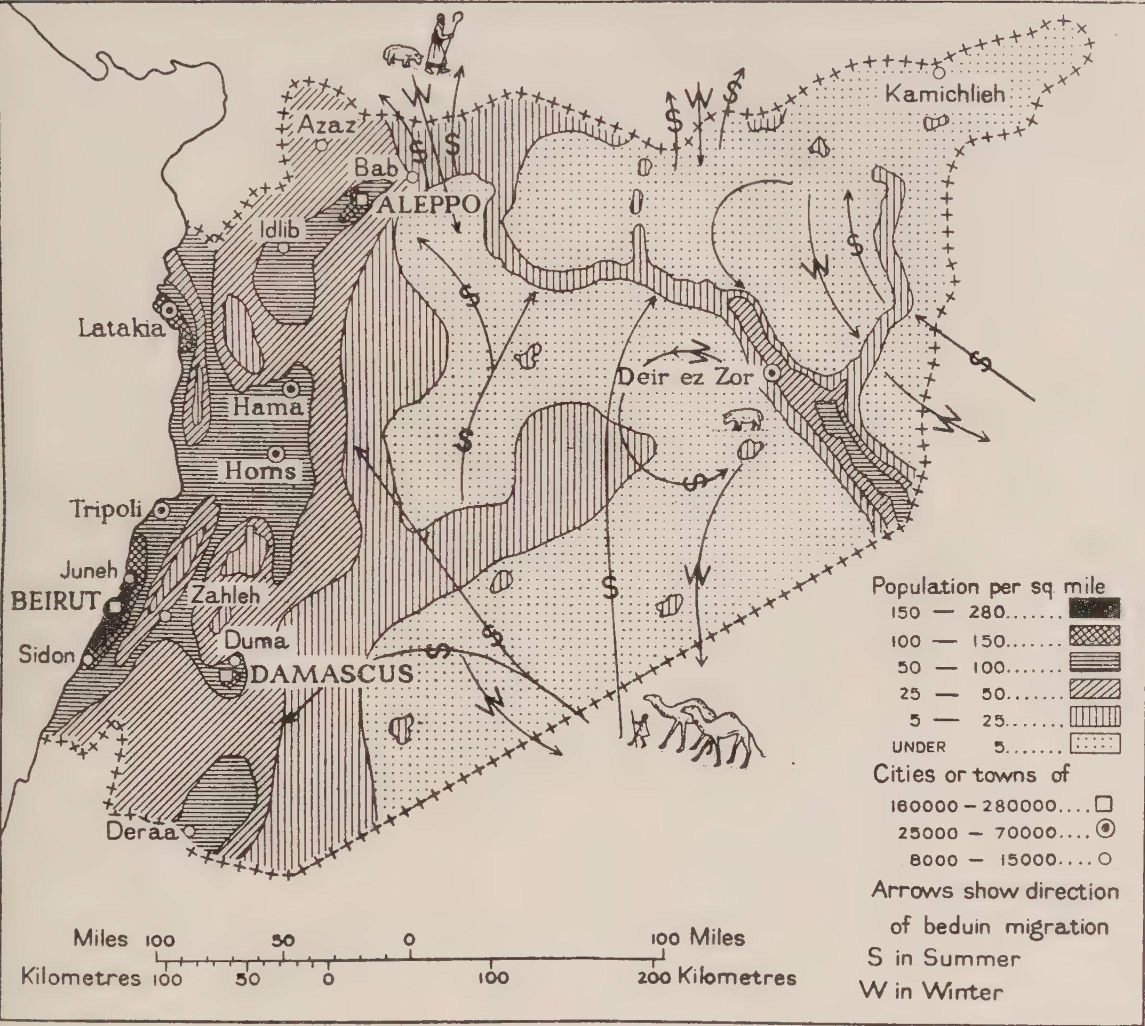


FIG. 40. *General density of population and direction of beduin migration*

But in the area under cultivation the villages lie more closely than this:

Province	*Square miles per village* Total area	*Cultivated area*
Aleppo	3·1	2·4
Damascus . . .	11	5·5
Homs	13·4	12
Hama	6·4	6
Hauran	12·3	8·4

The contrast is most extreme in the Jezireh and Euphrates provinces, where the settled population is limited to the river valleys (Fig. 45). Here alone in Syria is there as much as one village per square mile, in a cultivated area of under 500 square miles out of a total of over 14,000 square miles of steppes and desert.

The Settled Rural Population

Jebel Ansariyeh

Province of Latakia: 2,702 square miles, 1,081 cultivable; density 159 persons per square mile (Fig. 42).

The coastal plains and the western slopes inland are thickly settled between Latakia and Tartus. The highlands and the crest are

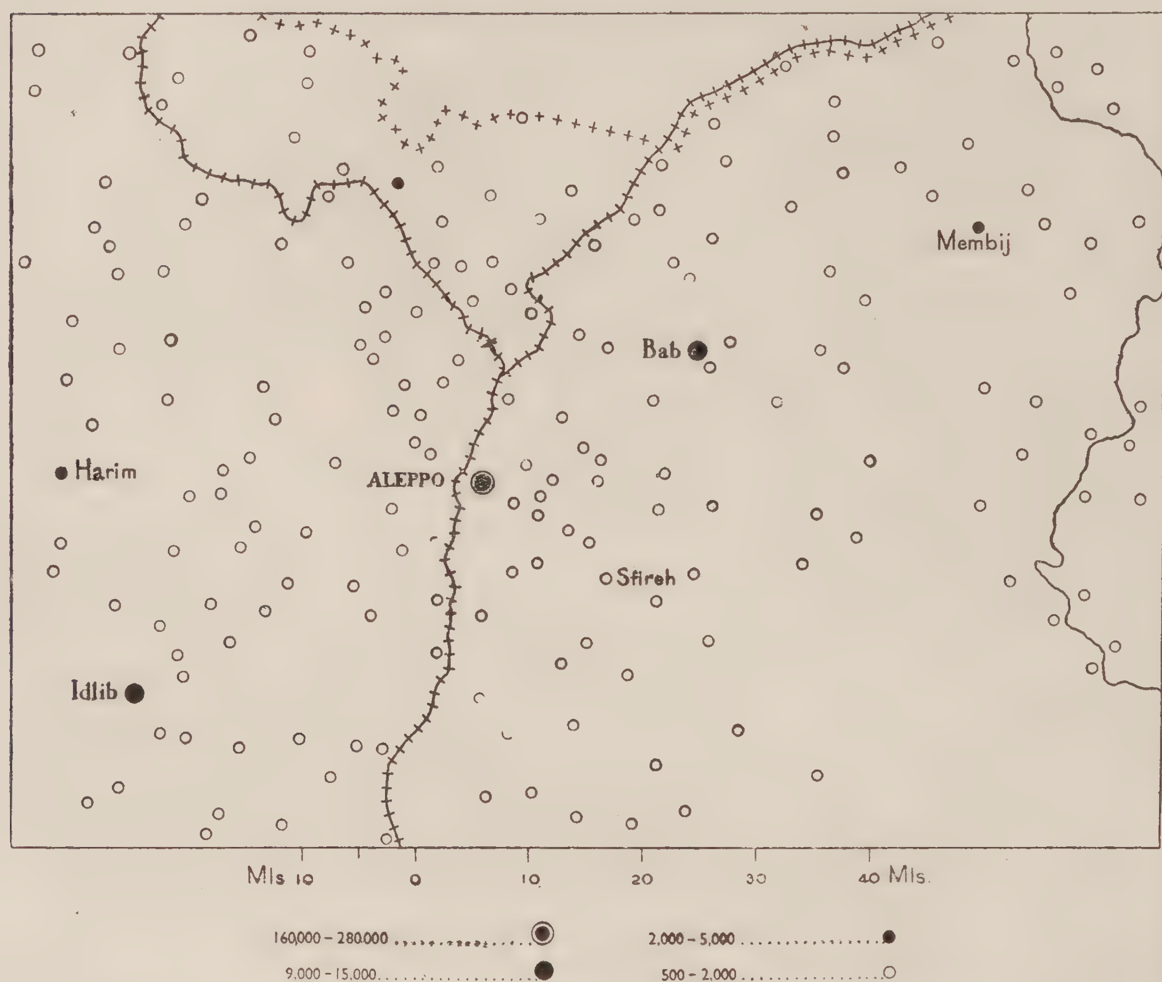


Fig. 41. *Distribution of towns and villages in Aleppo province*

emptier, particularly towards the south. A thin line of settlements marks the eastern slope above the Ghab and the valley of the Nahr el Kebir in the north.

The Central Plains

Aleppo province: 7,447 square miles, 5,540 cultivable; 2,345 villages; density 93·2 persons to the square mile (Fig. 41).

There is a concentration of population in the north, east of the Jebel Siman, from Aleppo northwards to Azaz, east to Bab, and

south-east to Sfireh. Eastwards to the Euphrates the population thins out, being chiefly collected in a group of villages around Membij and Jerablus. The regions to the west of the Aleppo–Homs railway are thinly populated except for the small plains of Harim and Idlib. South of Maaret en Numan the settlements, which are thinly scattered, are more numerous to the west than to the east of this railway.

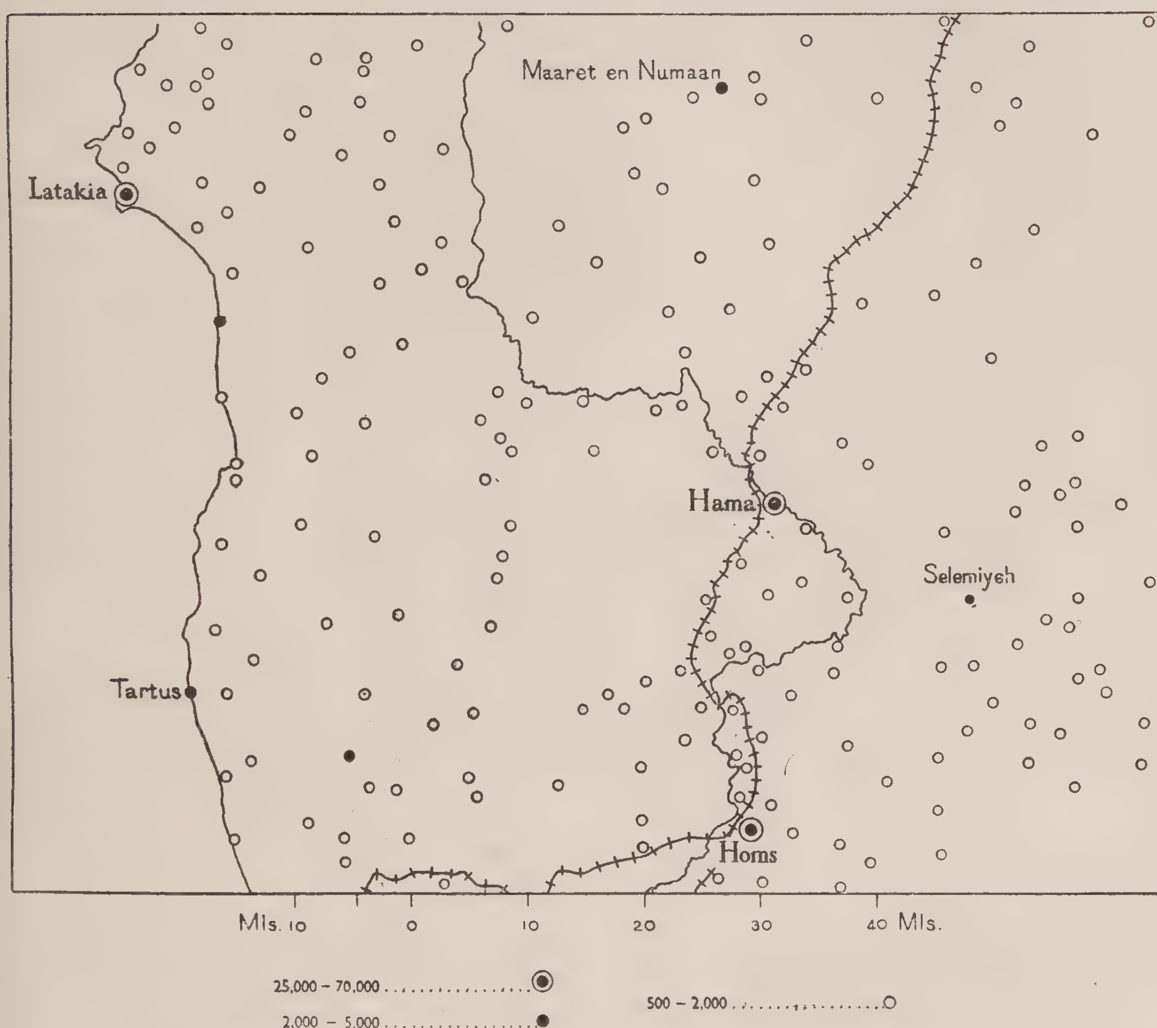


FIG. 42. *Distribution of towns and villages in Latakia, Hama, and Homs provinces*

Hama province: 2,152 square miles, 2,007 cultivable; 335 villages; density 51·8 persons per square mile (Fig. 42).

Homs province: 3,539 square miles, 3,166 cultivable; 263 villages; density 45·4 persons per square mile (Fig. 42).

Population is thickest in the valleys and plain of the Orontes and its tributaries, and eastwards in the steppes around Selemiyeh. There is an empty region west of Hama as far as the eastern edge of the

Jebel Ansariyeh. South of Homs, settlement is limited by the foot-hills of Anti-Lebanon.

Lebanon, Bekaa, and Anti-Lebanon

Lebanon Republic: 4,247 square miles, 223 persons to the square mile (Fig. 43).

A great part of the population is concentrated on the western slopes and valleys of the Lebanon massif. The northern Bekaa is more

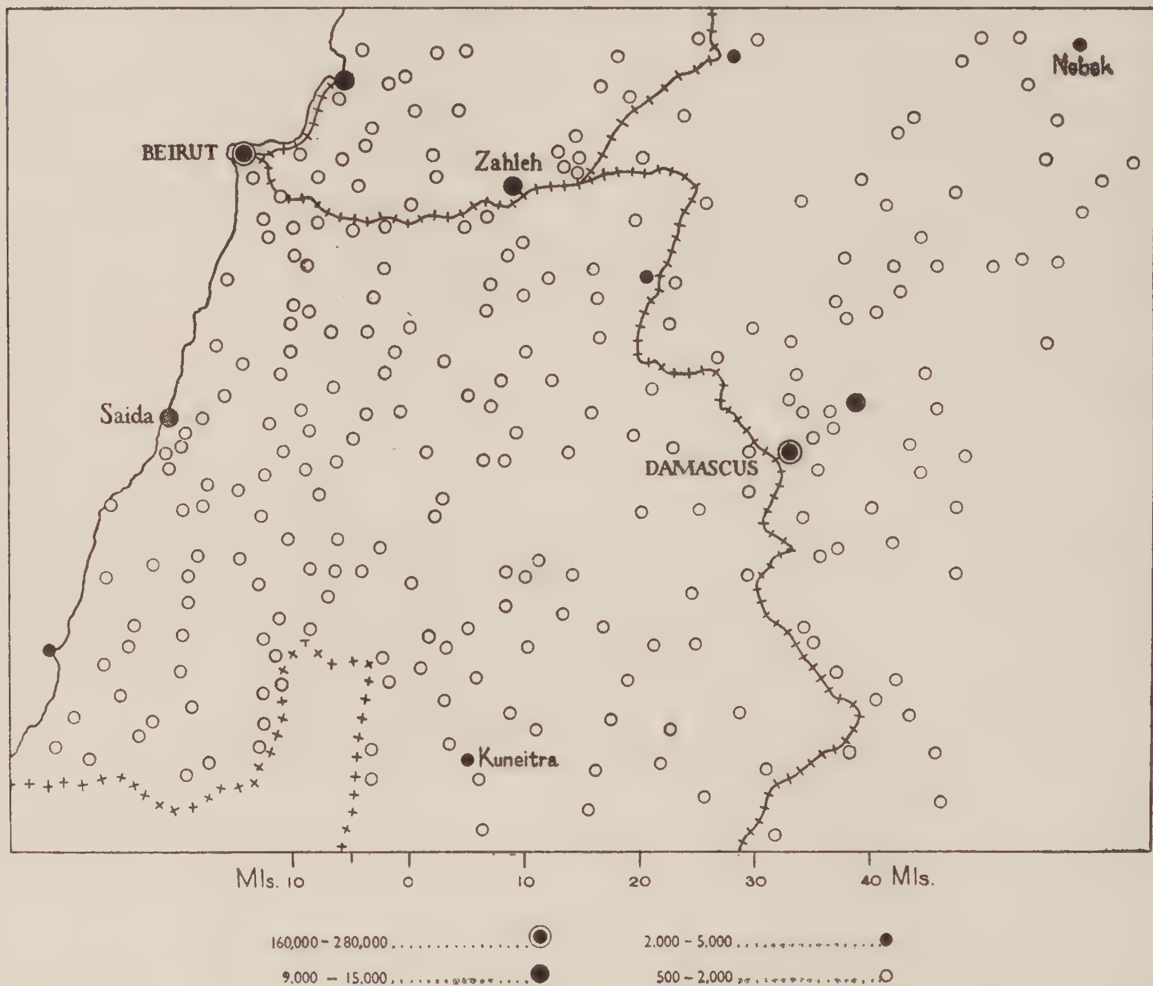


FIG. 43. *Distribution of towns and villages in the southern Lebanon and in Damascus and Hauran provinces*

thinly populated than the south. Anti-Lebanon and Hermon is an area of very irregular settlement, determined by climatic conditions, the south-western valleys of Anti-Lebanon, such as the Zebdani depression, and the south- and north-western slopes of Hermon, being the more important areas.

Damascus province

3,298 square miles, 1,660 cultivable; 298 villages; 132 persons to the square mile (Fig. 43).

North of the oasis there are scattered settlements along the Kalamun ridges (the eastern outliers of Anti-Lebanon) north-east to Nebek and Karyatein. In the oasis two-thirds of the population is urban; the rest dwell along the watercourses in a ring of villages which are within 8 or 10 miles of the city. To the south-west of the oasis there is a concentration of settlements in the northern Jaulan, east of Hermon, between Kuneitra and Katana; south-east a thin line of villages stretches from Kiswe towards the northern outliers of the Jebel Druse.

The Hauran

1,676 square miles, 1,139 cultivable; 136 villages; 53 persons to the square mile (Fig. 43).

The villages are thinly but evenly scattered. There is a line of them along the Deraa–Damascus railway and above the Yarmuk valley.

Jebel Druse

This has a total area of 3,861 square miles, with 18 persons to the square mile. Settlement is mostly to the south-west and south of the main mountain, with a thinner line of villages to the east.

Jezireh and Euphrates

14,471 square miles, cultivated 486; number of villages 280 and 284 respectively; 18·7 persons per square mile (Figs. 44, 45).

The settled population is found in five sections: along the Euphrates, particularly from Deir ez Zor downstream to Abu Kemal; along the Khabur from Hassetche down to Deir ez Zor, the settlements being thicker in the lower part of the valley; in three areas of the frontier region of the northern steppes: west of the Euphrates at Jerablus; around Kamichlieh; and in the extreme east of the Duck's Bill around Ain Divar.

This sedentary element in the Jezireh is of recent origin (cf. p. 155). By 1938 it had grown, in twenty years, from nil to over 100,000. The economic prosperity of this area has been built up by the French administration from unpromising beginnings. A remarkable feature

is the way in which former nomadic tribesmen have settled on the land and adopted agriculture.

NOMADIC AND SEMI-NOMADIC TRIBES

Beduin are found in the Jezireh and Euphrates areas both in summer and in winter (Fig. 40). In central Syria they appear in summer on the steppes and on the fringes of the richer plains, mostly east of the Aleppo–Homs railway, and in the south their chief summer resorts are the Hauran, the third Kalamun ridge, and the Jebel Druse.

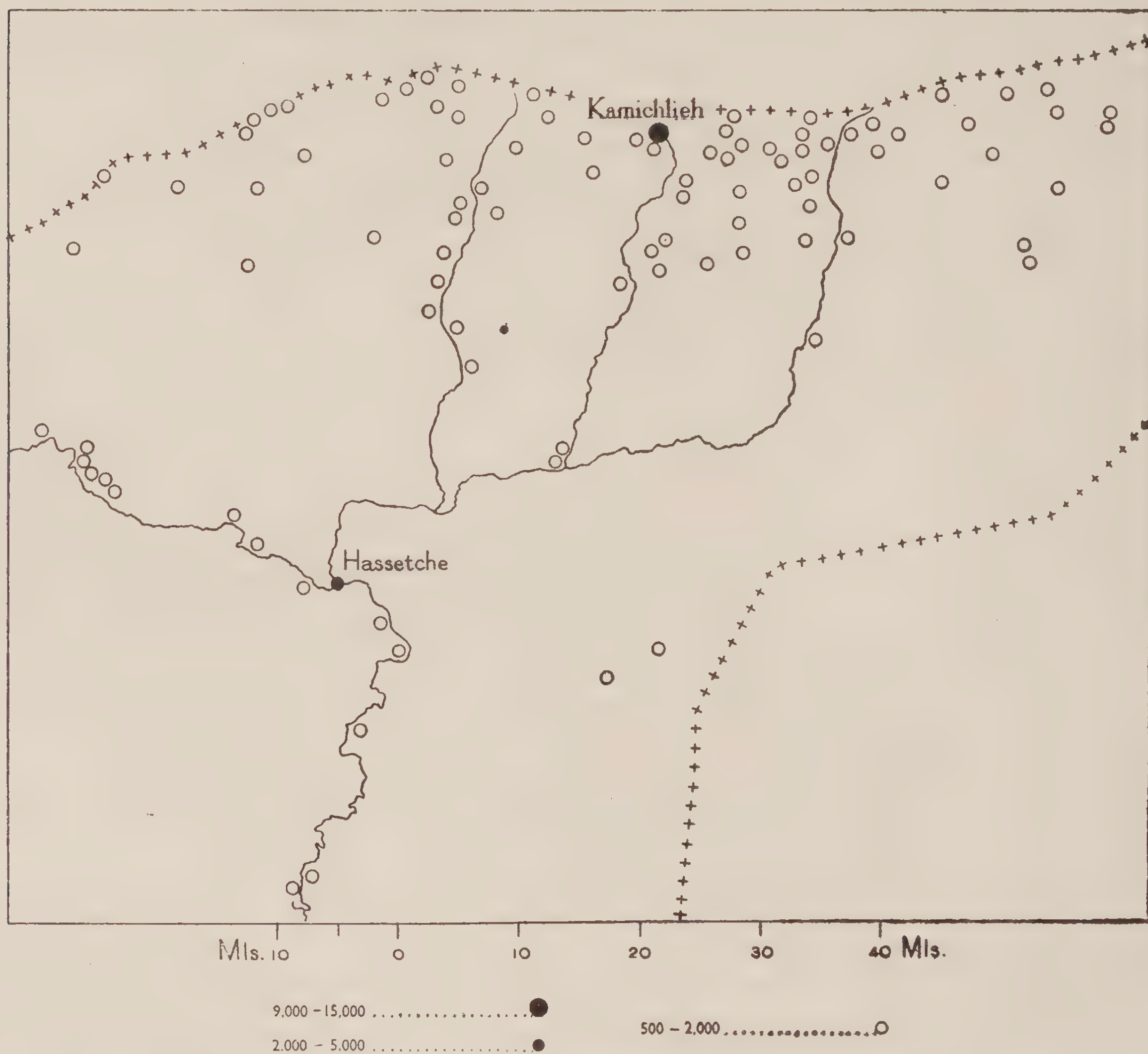


FIG. 44. *Distribution of towns and villages in the Khabur and Jagh Jagh valleys*

The great migratory tribes disappear from these areas between October or November and March or April, when they move south into the Syrian and Iraqi desert. In the Jezireh their place is taken

in winter by a number of tribes who move either south from the Turkish foothills or north from the banks of the Euphrates, for nomadic movement does not always involve vast distances. Similarly, the smaller tribes of the Damascus area do not travel far into the

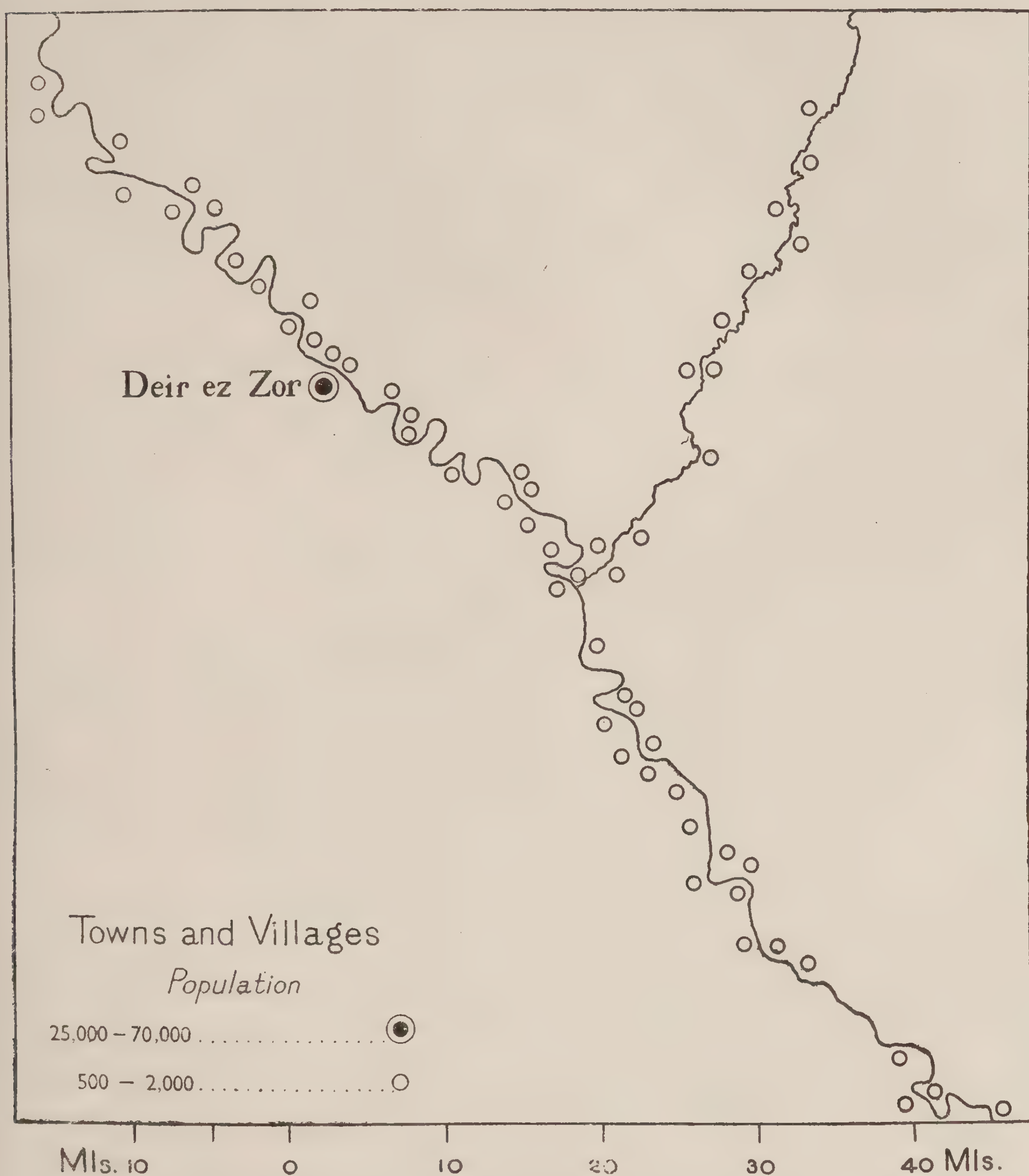


FIG. 45. *Distribution of towns and villages in the Euphrates and lower Khabur valleys*

wastes to find winter pasturage. There are a number of half-settled tribes throughout the steppes of northern Syria—particularly along the banks of the Euphrates—from Aleppo to Abu Kemal, and in southern Syria, particularly in the Jaulan and Damascus regions.

Tribes which are now entirely attached to the soil but retain the nomadic tent and way of life are to be found around Aleppo and in the western Jaulan.

The following summary catalogues the beduin by tribal group and tribes in each of the main geographic regions. In the column for 'districts' S. means summer and W. winter habitat. Tribes marked with an asterisk are semi-sedentary; when no change of habitat is given the tribe is entirely sedentary. Beduin are counted by the number of their tents or families, but these statistics have no official authority. They come from a work published in 1939 by the German traveller and political agent Oppenheim, who reckons a tent as five to seven persons, including two men of fighting age.

Tribal group	*Tribe*	*District*	*Tents*
Jezireh and Euphrates Area			
Feddan	Weld	S. Between Euphrates and Balikh W. Iraqi Hamad	2,925
	Chrese	S. East of Balikh W. Iraqi Hamad	1,950
Amarat	Jebel	S. Eastern Jezireh	2,000
	Dehameshe	W. Iraqi and Syrian Hamad	3,120
Shammar	Tabet Feddaga Amud	S. Khabur W. South-east Jezireh	1,600 1,500 800
	Chrese	S. Duck's Bill of Jezireh W. South-east Jezireh	1,650
Tai	..	S. Around Kamichlieh W. Jebel Sinjar (Iraq)	3,000
Zubed	Jebur	S. Around Hassetche W. South of Jebel Abdul Aziz	2,000
Al Bu Shaban	*Welde (3 groups)	S. Bab-Membij; Meskeneh-Rakka south bank; ibid. north bank W. Jebel Bishri, and Balikh	1,500 700 1,800
	*Afadele	S. Euphrates, north bank, east of Rakka W. Steppes to north	4,000
	*Sabcha	Euphrates, south bank, east of Rakka	1,200
Oggedat	Eleven groups	S. Euphrates, banks from Deir ez Zor to Abu Kemal W. Jebel Bishri	10,000
Baggara	*Baggaret ez Zor	S. Euphrates, north bank round Deir ez Zor W. Jebel Abdul Aziz	2,000
	Baggaret el Jebel	S. Upper Khabur W. Jebel Abdul Aziz	1,000

Tribal group	*Tribe*	*District*	*Tents*
Along Turkish frontier of Jezireh			
Harb	Nusel	S. Upper Khabur	400
	Al Bu Salem	W. Steppes to north (Turkey)	500
Sherabin . . .	*Al Bu Mohammed	S. Around Ras el Ain and Kamichlieh	500
	*Obed	W. Jebel Abdul Aziz	100
	*Tahet	S. Extreme east of Duck's Bill W. Hassetche area	700
Nuem. . . .	Four small groups	S. North-west Jezireh W. Steppes east of Balikh	430
Jez	Sijale		
	Beni Mohammed	S. Around Urfa (Turkey) W. Balikh	1,500
	Beni Yusuf		
Aleppo Area			
Sba	Kemese (Kemese, Mehawib, Rasalin Mesrab)	S. Around Selemiyeh W. Iraqi Hamad	1,150
	Ebede		1,100
Hadidin* . . .	Kwame	S. Between Jebel Hass and Jebel el Ala W. Palmyra area	2,350
	Ghanatese	S. Meskeneh-Jebbul Göl W. Palmyra area	335
	Al Bu Hasan	S. Selemiyeh W. East of Palmyra	500
	Al Jumlan		350
Dependent on Hadidin .	Gijar	S. North of Aleppo W. Resafa, south-west of Rakka	270
	Wahab	S. East of Bab W. Jebel Bishri	280
	Al Bu Shamis	S. Jebbul Göl W. Jebel Bishri	350
	Luheb	S. South of Aleppo W. Jebel Bishri	275
Hama–Homs Area			
Ruwalla (*see below*)			
Mawali . . .	Shemalijin	S. North of Hama to Maaret en Numan	1,280
	Kiblijin	W. Jebel Bilaas	480
Dependent on Mawali .	*Beshakem	S. Jebel el Ala (near Hamra) W. Jebel Bilaas	250
	Turki	S. Jebel el Ala W. Jebel Bilaas	290
	*Ogedat (Syrian)	S. West of Homs W. Jebel Bilaas	255
Beni Khaled . .	*Eighteen small sections	S. Jebel el Ala and Jebel esh Shomariyeh W. South-east Hamad (Jebel Tenf)	600
Fewaera . . .	Ten small sections	S. Jebel esh Shomariyeh W. Iraqi Hamad	350
Dana Moslem . .	Hesene	S. Jebel esh Shomariyeh W. Syrian Hamad (Jebel Tenf)	200
Nuem (*see below*) . .	*Nuem *Wuheb	S. Homs–Selemiyeh W. South-east Hamad	380

Tribal group	Tribe	District	Tents
Hauran and Jaulan			
Ruwalla	Mered	S. South of Homs; south Jaulan and Hauran	1,130
	Fereje	W. Syrian and Transjordanian Hamad	800
	Kaaja		1,100
	Kewatshebe		900
Sewaleme	..	As Ruwalla	500
Abdelle			250
Ashaja			700
Dana Moslem	*Weld Ali (*see also* 'Damascus')	South Hauran	400
Fadl	*Five small groups	Kuneitra, west to Palestine frontier	820
Nuem.	*Fifteen small groups	S. Kuneitra, north-east to Kiswe W. South-east Hamad	1,200
Minor tribes	*Merazeka *Nearene *Luwesiyeh *Jeatwe *Tellawiyeh	South-west corner of Jaulan	810
Damascus Area			
Dana Moslem	Weld Ali	S. Dmeir, north-east of Damascus W. Syrian Hamad	160
	Jumlan	S. Wadi el Ajem (south of Damascus) W. Durs plateau	180
	Ogedat	S. Ghuta W. Northern Durs plateau	240
Nuem.	*Four small groups	Ghuta	270
Amur	Amur ed Dire	S. Nebek-Dmeir W. Palmyra area	250
Arab el Leja (Salut)	Al Hamad	S. W. South-west Leja	900
	Beni Amr	S. W. North-east Leja	1,000
Arab el Jebel	Zubed (5 small groups)	S. Jebel Druse W. Hamad to north and east	400
	Wessamet el Bahel (3 small groups)	S. Around Salkhad W. Hamad to north	400
(Arab el Safa)	Ghijat Shtaje	S. Eastern Jebel Druse W. Jebel Safa	330
Sardiyeh	..	S. South of Jebel Druse W. South into Transjordan	150

Regional Distribution of Religious Sects

The patchwork of religious confessions is illustrated by the following table of assessment by religion, which is compiled from the latest available returns:

Sect	The Syrian Republic (including Latakia and Jebel Druse) Sedentary population on 31 Dec. 1938	The Lebanon 1932
Islamic and sub-Islamic		
Sunni	1,737,402	178,100
Shia	11,541	155,035
Alawi	274,486	..
Druse	79,428	53,334
Ismaili	24,390	..
Total	2,127,247	386,469
Christian		
Greek Orthodox	115,118	77,312
Greek Catholic	42,427	46,709
Armenian Orthodox	86,742	26,102
Armenian Catholic	12,137	5,890
Maronite	11,800	227,800
Syrian Catholic and Orthodox	47,074	5,526
Protestant	7,660	6,869
Latin	4,750	6,393
Chaldean Catholic	3,759	738
Total	331,467	403,339
Others		
Jew	26,250	3,588
Yezidi	2,063	..
GRAND TOTAL	2,487,027	793,396

The figures can only be taken as approximations and are not of the same period. The Lebanese figures have the disadvantage of being long out of date, but they give an idea of the confessional problem. To the Syrian figures should be added about 9,000 Assyrian (Nestorian) Christians who have settled in the Jezireh (p. 155) and the nomads, mostly Islamic, who have been estimated variously to number from 150,000 to 250,000, and who, whether Arab or Kurd, may be classified as Sunnis.

The detailed distribution of the religious communities may be briefly summarized as follows (cf. Figs. 38–9, pp. 162, 164):

(*a*) The Sunnis form about 70 per cent. of the population of Syria, and they are represented in every province and in every district, though they form small minorities in the Jebel Druse and in Latakia. In the Lebanese Republic they number about 178,000 or about 22 per cent. of the total.

(*b*) There are some representatives of all the main Christian communities in every Syrian province and in the Lebanon. The different confessions have their largest numbers distributed by provinces as follows:

Greek Orthodox in Latakia, Damascus, Homs, Hama, and the Lebanon.

Greek Catholics in Damascus, Aleppo, and the Lebanon.

Armenian Orthodox in Aleppo, Damascus, and the Lebanon, chiefly in the cities.

Armenian Catholics in Aleppo and the Lebanon, likewise chiefly in the cities.

Maronites in the Lebanon, where they form the largest single community (28·7 per cent.), and also in Latakia and Aleppo.

Syrian Orthodox in Homs and the Jezireh.

Syrian Catholics in Aleppo, Damascus, Homs, and the Euphrates valley.

Latins in Aleppo.

Protestants in Aleppo, Homs, Latakia, and the Lebanon.

Chaldeans in Aleppo and the Jezireh.

Assyrian Nestorians in the Jezireh.

(*c*) The Jews are also widely scattered: there are large numbers in the Lebanon, Damascus and Aleppo provinces, and a few in every other Syrian province except Hama. The Jewish community is mainly urban.

(*d*) The dissident or heretical Moslem sects and the Yezidis, on the other hand, tend to be more concentrated in particular localities:

(i) The Alawis returned 86 per cent. of their number (235,511 out of 274,486) as living in Latakia province, where they form the population of the countryside and not of the towns. Most of the remainder live in the adjoining districts of Homs and Hama.

(ii) Shias or Mitwalis: 92 per cent. dwell in the South Lebanon and the Bekaa (155,035 out of 166,576); and of the remaining 11,541, no fewer than 10,690, nearly 7 per cent. of the whole, live in the Idlib and Azaz districts of Aleppo province.

(iii) Druses: of their total of 132,762, the Jebel Druse accounts for 61,949 or 46 per cent., and Damascus province for 14,232 or 10 per cent. Another 40 per cent. (53,334) live in the Lebanon, of whom about four-fifths are in the mountain district.

(iv) Ismailis: the whole community is divided between Hama and Latakia provinces (17,810 and 6,572 respectively).

(v) Yezidis: these people are confined to the Kurd Dagh kaza of Aleppo province and to the Jezireh. Their headquarters are in the Jebel Sinjar just over the Iraq boundary.

Geographical Summary. The foregoing analysis will be clearer when summarized regionally. While there is very great intermixture of creeds and sects throughout Syria and the Lebanon, yet particular regions are associated with particular minorities or groups of minorities. The Lebanon in the geographical sense is mainly populated by Maronites and Druses, but the frontiers of the new Lebanese Republic were enlarged to include Tripoli, Beirut, and other coastal towns with large populations of orthodox Sunni Moslems, and districts to the south and east which are mainly inhabited by Mitwalis. These facts have added to the already complex difficulties of local administration.

Latakia province, out of a population of 371,000, has a majority of 60 per cent. Alawis, mostly in the country districts, but also some Ismailis and large groups of Sunnis and Greek Orthodox. These latter disliked the autonomous regime. The province of Jebel Druse is far less complex, 88 per cent. of the population being Druse and the remainder Sunni.

The Jezireh has a peculiarly mixed population which contains 77,000 Sunnis, over 7,000 Armenians (Gregorian and Catholic), 14,000 Syrian Christians (the vast majority of whom are Jacobites), about 1,500 Jews, and 1,000 Yezidis. In addition there are the recently arrived Assyrian Nestorians, 8,000 or 9,000 strong. This is the sedentary population. There are also the Sunni nomads (*above*, p. 168), though the figure for Sunnis includes semi-sedentaries.

Vital Statistics

It is commonly said that the birth-rate throughout Syria is very high, but until recently there was no proof forthcoming to support the statement: the only evidence for the high birth-rate was the fact that large families are common. M. de Caix, as accredited representative of the Mandatory, was once asked by the Permanent Mandates Commission for demographic figures; he replied that 'the statistics it would have been possible to give would have been more or less imaginary', and instanced the fact that in 1929 up to 20 September not a single birth had been registered in Aleppo or the four surrounding districts which contained nearly half a million

habitants, though the area was exceptionally well staffed with registration officers.

Of recent years there has been greater control, particularly in the Lebanon, where 17,154 births were registered in 1938 against 19,202 in 1937, about 20 or 21 per thousand persons, a fairly high rate. The figure for registered deaths was under 8 per thousand. Figures for Latakia in 1938 gave a birth-rate of 13 to 15 per thousand, which is unduly low, and a death-rate about the same as in the Lebanon. The only available statistics for Syria (excluding Latakia and the Jebel Druse) give a birth-rate of between 20 and 30 per thousand (71,514 births in 1935, 55,514 in 1934) and a death-rate of 10 or 11. These figures show the irregularity of civil registration in Syria, but more exact information which is available for the small Assyrian community suggests what the above statistics indicate, that the birth-rate is generally very high and far exceeds the death-rate. Assyrian births were at a rate of no less than 37 per thousand in 1937 and 52 in 1938, whereas the death-rate was then only 24 and 21 respectively. There is no doubt that the population of the country is increasing rapidly. In the Syrian Republic alone (including the figures for Latakia but excluding the Jebel Druse) the population increased in numbers between 1934 and 1938 by 284,079 persons, an increase of 13 per cent. in four years. In the Lebanon the population increased between 1932 and 1942 from 793,396 to 1,116,000, an increase of over 20 per cent.

Emigration

At various periods Syrians, like Greeks and Italians, have been tempted in large numbers to seek their fortunes overseas. It has been estimated that about 120,000 left the country between 1860 and 1900, and that the figure rose to about 15,000 a year between 1900 and 1914; though no regular statistics were kept by the Turkish Government, the records which have been kept since 1923 suggest that these estimates are not exaggerated; in 1923 and again in 1926 the number of emigrants rose to 16,000.

Since 1931 the numbers have dropped owing to the economic depression; the figure from 1934 to 1938 varies between 2,000 and 4,000; in 1937 Lebanese emigrants numbered 3,315 and Syrian 950: of these 2,701 were Christians and 1,564 Moslems.

The first country to which large numbers went, naturally enough, was Egypt: about 1890 the tide set towards the United States and Canada. When these countries began to close their doors Mexico



PLATE 98. *Damascus and Salihiyeh with Jebel Kassiun behind*

Plate 99. *Damascus around Omayyad mosque*



Plate 100. *North-western district of Damascus*

was for a time the favourite; in 1927 the Syrian population there is said to have numbered 15,000. Of late years far more have gone to South America, to Brazil, Uruguay, the Argentine, or to Senegal. In the decade 1920–30 it is estimated that 50 per cent. went to South America, 10 per cent. each to Egypt and North America, 15 per cent. to different parts of Africa, exclusive of Egypt, Senegal being the most popular, and 15 per cent. elsewhere.

A fairly large number of men seem to take their women and children with them, and most of them perhaps go with the intention of returning when they have made enough money; in two years of light emigration during the economic slump, 1931 and 1932, the number returning was greater than the number leaving, probably because they found it impossible to make a living abroad; in other years returning emigrants numbered about half those leaving. Most of them are said to start life in the new country as pedlars of piece-goods and commission agents in a very small way; very few of them make real fortunes, though many are able to send remittances home after a year or two. Some of the South American colonies run their own schools, churches, and Arabic newspapers, and in Egypt at least the Syrian community has contributed notably in many fields to the general well-being of its adopted home.

DESCRIPTION OF CHIEF INLAND TOWNS

Damascus or Esh Sham

Damascus lies on the eastern side of the Anti-Lebanon, at a height of 2,264 feet, and on the western edge of an oasis which is watered by the Barada and its canals and other streams. It is the capital and seat of government of the newly independent State of Syria, and with Aleppo is the most important city of the interior. The population was 275,651 (1942):[1] about three-quarters were Moslem, while the Greek Orthodox and Greek Catholic were the most numerous of the Christian confessions; there were many Armenian refugees, and a Jewish community. (Fig. 46; Plates 98–100.)

History

The name of Damascus, which is pre-Semitic, is mentioned in Egyptian texts of the second millennium, and frequently in the Old

[1] After the population figures in this and later chapters, dates in brackets indicate the age of the statistics. The published census reports give particulars and totals for very few towns; hence throughout Chapters VIII, XIII, and XIV such figures are often out of date.

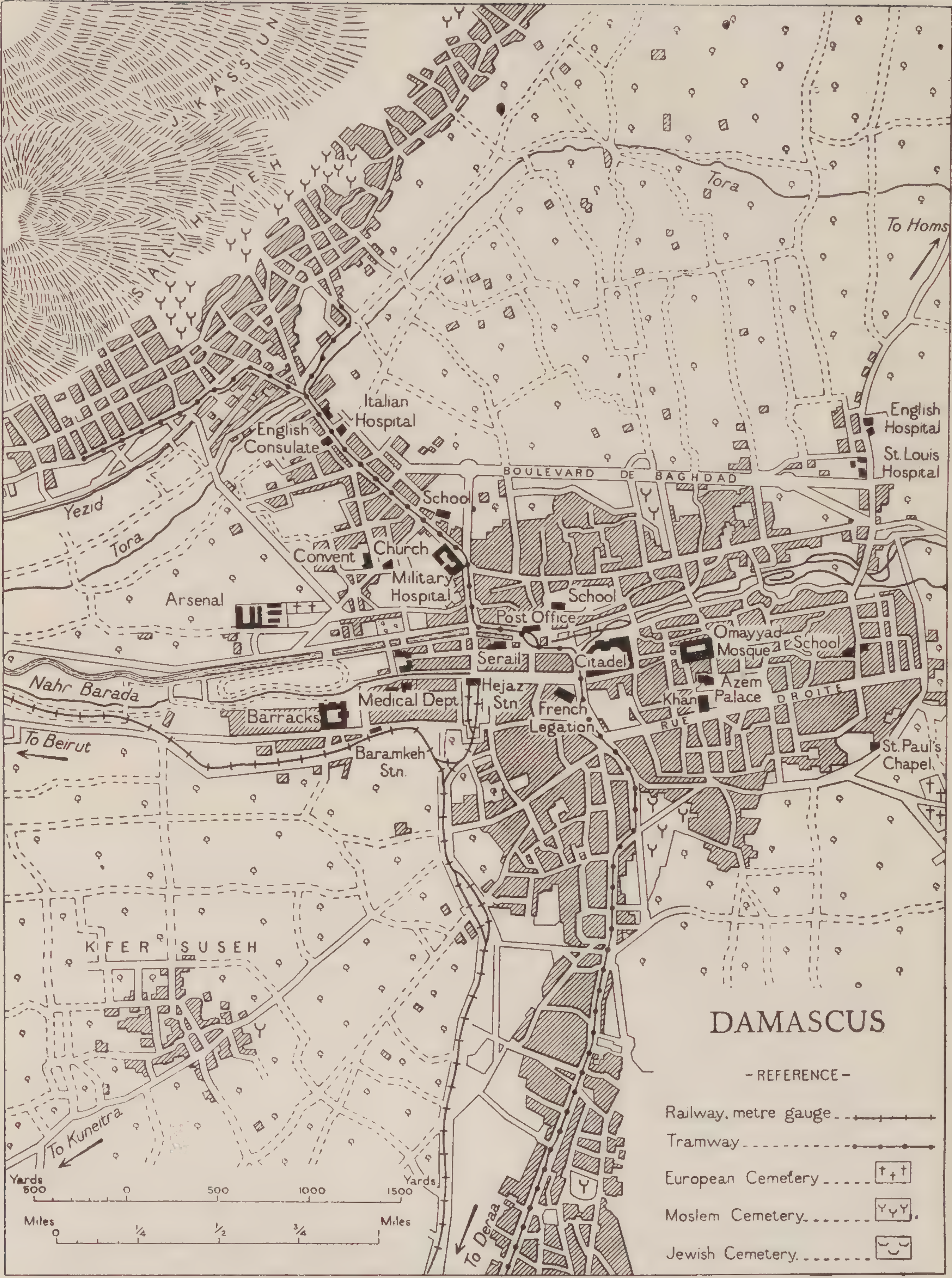


FIG. 46. *Town plan of Damascus and its suburbs*

Testament. The oldest visible buildings date from the Graeco-Roman period; much of the old city wall of that period is standing, columns still in place mark the lines of the classical streets, and the Omayyad mosque, which has some superb wall-mosaics, is entered through a Roman portico. During the Omayyad period, A.D. 660–750, it was the capital of the caliphate, and as an Islamic centre and home of Islamic studies it still ranks second only to Cairo. Since the seventh century it has been the chief starting-point for the pilgrimage to Mecca, and Suleiman the Magnificent built a mosque and guest house especially for pilgrims from distant lands on their way to and from Mecca. After 750 Damascus passed under the domination of Egypt, and was burnt down several times. It became an Arab capital again in 1154 and flourished until the second half of the thirteenth century, after which it was several times devastated by the Mongols. The Ottoman Turk occupation in 1516 brought a new era of prosperity which was not affected by a brief period of Egyptian rule (1832–40), but commercially Damascus declined during the seventeenth and eighteenth century when trans-desert commerce was diverted to Aleppo. The opening of the Suez Canal was a heavy blow, but since 1918 a great revival has taken place; the city has become once more an important and busy terminus of modern trans-desert traffic. Motors, and great Pullman, air-conditioned buses operated by several companies, the chief of which is the Nairn Transport Company, cross the desert regularly to Baghdad.

General Description

Damascus (Fig. 46) is built along the banks of the Barada for about 2 miles. It has long moved out of the original fortified town, roughly rectangular in shape, and modern, populated suburbs have sprung up. To the south is the Meidan suburb, the residence of peasants and beduin; to the north the Amara suburb with the Saruja market; to the north-east the Kasaa suburb; north-west along the Salihiyeh road is the suburb where well-to-do Syrians, and also European families, live. Salihiyeh itself was once a distinct town lying at the foot of Jebel Kassiun, but it is now part of Damascus and linked to it by road and tramway.

The Barada and its seven principal canals provide freshness and water to Damascus. In the city itself the river is almost everywhere covered in, but it is subdivided into innumerable conduits which provide running water in the baths, mosques, countless public fountains, and private houses; each of the latter has several ornamental

pools. Drinking-water is specially piped from the spring of Ain Fijeh, 11 miles north-west of the city. It is little wonder that the nomad Arabs should regard Damascus as a paradise.

The markets of Damascus are filled with fruit and vegetables from the gardens and orchards of the Ghuta, which are exported as far as Egypt, and there is a great corn market for cereals from the Hauran; Damascus is a great provision centre for nomads. The bombardments of 1924 and 1926 devastated wide areas, but the bazaars are still busy. Whole streets are devoted in the old oriental style to particular crafts and trades, copper-smiths, shoe-makers, saddlers, tailors, cooks, jewellers, and so forth. The chief industries to-day are silk weaving (still done by hand), beaten and inlaid copper work, marquetry work, and carved furniture, often too ornate for modern taste.

The modern town is well provided with restaurants, hotels, baths, garages, banks, hospitals, cinemas, and consulates (British, Italian, Dutch, and Spanish). There is a tram service which starts in the centre of the town—Place Merjeh—with two main lines, one north-west to Salihiyeh, the other south to Meidan. There are also many schools. Religious fanaticism is being modified by the diffusion of European culture: Moslem schools, formerly renowned, have almost disappeared, and more modern schools are taking their place; many are run by religious orders. Damascus is also the seat of a modern Arab university, with an Arab faculty of arts and a school of law: as capital of the country it has been the home of the nationalist movement.

Communications

Rail. Commercial relations with Europe have brought about the modernization of communications. There are now two railway stations in Damascus; the Baramkeh station is the terminus of the narrow-gauge railway over the Anti-Lebanon and Lebanon to Beirut, joining up at Rayak with the main standard-gauge line to Aleppo. The other, the Meidan, is the terminus of the Hejaz or Pilgrim railway which runs via Deraa as far as Medina, with a branch line from Deraa through north Palestine to Haifa. L 5, 6.

Road. Modern roads run west to Beirut, north-west to Baalbek, north to Aleppo, south to Deraa, and south-west to Kuneitra and thence by Baniyas south into Palestine, or north-west to Merj Ayun. In addition many of the motor and caravan routes stretching westwards from Palmyra and the Euphrates valley have their western



PLATE 101. *Town plan of Aleppo. Symbols as Fig. 46*

terminus at Damascus, as well as those followed by the bus services to Baghdad. Two and a half miles south-west of Damascus at Mezzeh, a town of the Ghuta, is the civil airport, used by liners of Air France on the route eastwards to Baghdad and Indo-China. R 3, 4, 6, 8, 20, 21.

Aleppo

Aleppo lies, at a height of 1,220 feet, between the valleys of the Euphrates and the Orontes in a basin surrounded by low hills; it is watered by a small stream, the Kuweik. Of the population of 299,218 (1942) the majority are Moslem; but there is a large Armenian, Turkish, and Jewish community, and Syrian Christians of all churches. It is the capital of the northern province of Syria. (Plates 101–4.)

History

Aleppo (*class.* Beroea) also is a very ancient city, dating back to the third millennium at least. The name, which is derived according to an Arab legend from the fact that Abraham milked (*haleb*) his animals here, has been found on many cuneiform documents. Its prosperity dates from the Arab conquest of the seventh century, when Aleppo became the centre, in north Syria, for the caravan trade of northern Mesopotamia and Persia. In the tenth century it became the centre of a small principality under the Hamdanids, but it had to struggle with the Byzantine emperors in the west and with the rulers of Mosul in the east. One of the sons of Saladin, El Malek ez Zahir Ghazi (1185–1218) did much to restore its prosperity, but in 1258 it was taken and pillaged by the Mongols, and then passed under the domination of the Mameluks of Egypt. In the sixteenth century under Turkish rule it became the chief market of the East and capital of a vilayet; by the seventeenth century it was considered to be the third city of the Ottoman Empire, next to Constantinople and Cairo. It became a great textile centre and desert port for the trade between the Far East, Turkey, and Europe. Artisans used to specialize in weaving fine silks and mixed fabrics of silk and cotton for the Turkish market, and merchants used to handle the luxury goods which came from the Far East by way of the Euphrates and Persian Gulf.

In the nineteenth century Aleppo declined and faded into commercial obscurity in the same way as Damascus, but in 1880 a revival set in and since the twentieth century it has partly regained its former commercial importance.

General Description

The medieval princes of Aleppo had a palace on the citadel, but the most characteristic buildings are the quarters of the comfortable middle-class merchants and manufacturers which date in style, at least, from the eighteenth century. Heavily barred gates like those which lead into an English college quadrangle open off the main thoroughfares into an alley with high, blind walls on either side broken only by low doors as strongly barred as the outer gate. The doors lead through a narrow passage into a paved court, in the centre of which there is usually a marble fountain with vines and roses trellised round it. On the south side of the court is an open *liwan*, or large alcove, with a marble floor (Plate 86). There are rooms on the other side, and cisterns and labyrinthine cellars beneath them.

The old city was roughly square (Plate 101) and built round the Turkish citadel on the east bank of the Kuweik Su. Modern suburbs stretch out in all directions, but have mostly developed westwards in the direction of the railway station. The chief are Aziziyeh on the north-west and Hamidiyeh on the north. The Jewish quarter of Jemiliyeh is near the railway station on the west bank of the Kuweik Su. The Armenians have settled on the northern outskirts. Aleppo has the usual modern buildings, hospitals, hotels, restaurants, Turkish baths, garages, Post Office, banks, cinemas, libraries, and consulates (British, American, Italian, Turkish, Egyptian, Spanish and Portuguese, Greek, Danish and Norwegian, Belgian and Dutch). The water-supply is piped from the Kuweik Su.

Communications

Rail. Aleppo has two stations; the D.H.P. (Damas–Hama et prolongements), is on the west side of the city, the other, the L.S.B. (Lignes Syriennes de Baghdad, formerly B.A.N.P.), lies to the north-west: both are on the west bank of the Kuweik Su. The first is the terminus of the railway which runs south through Hama, Homs, and Baalbek to Rayak, where there is the junction with the narrow-gauge Beirut–Damascus railway. The other is the terminus of the two branch lines of the Baghdad railway, one leading to Meiden Ekbes, the other to Choban Bey. There are also three tramway routes, two of which start from the D.H.P. station: (i) to Bariek Maslak, (ii) to the bazaars, and (iii) from the suburb of Hamidiyeh to the Antioch gate. L 1, 3.

Road. Aleppo is a focal point in road communications. There are first-class roads north to Killis, north-west to Alexandretta, west to



Plate 102. *Aleppo and its plain looking north-east*



PLATE 103. *Aleppo citadel*



PLATE 104. *Aleppo looking north from the citadel*

Antioch, south-west to Latakia, and south by Hama, Homs, and Damascus to Deraa. In addition there are short roads north-east to Bab and east to Meskeneh: both of these are prolonged by motorable routes, the one from Meskeneh leading down the Euphrates valley to Abu Kemal, the other north-east to Jerablus. Many of the desert tracks from Palmyra and elsewhere converge on Aleppo. Two miles west of the city lies the modern civil airfield of Neirab. R 3, 15, 16–19.

Homs

Homs lies at an altitude of 1,624 feet in the middle of a vast plain through which the Orontes meanders. The town owes its importance to the fact that it lies at the eastern end of the only natural gateway in Syria leading from the coast to the interior; it is also the centre of a rich agricultural area. The population is 94,600 (1942) and includes about 15,000 Christians, mostly Greek Orthodox; the rest are Sunnis. Homs is the capital of a province.

History

Homs (*class.* Emesa) was the seat in ancient days of the worship of a black stone called Elagabalus, which was carried to Rome in the third century A.D. by the emperor of that name. The town was taken by the Arabs in 636 and became the centre of an administrative district, but it never took a prominent part in the political history of the country. In the Middle Ages it passed into the power of several different princes, but after the Mongol invasions it fell under the strict jurisdiction of Hama and Damascus in turn. Homs was always a town of secondary importance, even in the nineteenth century when it rebelled against the temporary Egyptian overlordship (1832–40). Throughout the whole of Syria Homs has a reputation for religious fanaticism, and the mode of living of its inhabitants has changed little even in recent years.

General Description

The town of Homs stretches northwards from the citadel, which is an ancient tell or mound, more than 100 feet above the general level of the town (Fig. 47, Plate 106). The old town has a dull, monotonous aspect, partly owing to the dark basalt stone used for building, and also to the general lack of water and verdure. The Orontes lies about a mile west of the town, and the water-supply, filtered by the municipal authorities, is derived from the Orontes canal. Compared with the growth of Beirut, Damascus, and Aleppo, Homs has increased



FIG. 47. *Town plan of Homs*

comparatively little in size; modern buildings extend east, north, and westwards, many of them in the direction of the station. There are modern hotels, a hospital and a nursing home, restaurants, Turkish bath, Post Office, banks, garages, libraries, and schools. Homs is important as a market centre, especially as it is surrounded by a green cordon of fruit and vegetable gardens, and vineyards: there are several bazaars. There is a little small-scale industry in Homs, mostly silk, cotton, and artificial silk weaving; also the curing and tanning of hides. The weavers of Homs are still famous for silk shawls.

Communications

Homs, at the eastern end of the Tripoli–Homs gap, is a focal point of routes from north to south, and from east to west. It is about halfway on the main standard-gauge line from Rayak to Aleppo, and is the junction for the branch line to Tripoli. L 1, 2.

Roads run north to Hama and Aleppo, south via Nebek to Damascus, south-west to Baalbek and the southern Bekaa, and west through the gap between Jebel Ansariyeh and the Lebanon to Tripoli and the coast. There are motorable roads north-east to Selemiyeh as well as across the desert to Palmyra and the Euphrates valley. South-east of the town near the station is a military landing-ground. The northern pipe-line from Iraq to Tripoli passes 1½ miles south of Homs. R 2, 3, 10, 11.

Hama

Hama lies 34 miles north of Homs at a height of 1,010 feet in a depression surrounded by hills. It has a population of 66,463 (1942), which includes about 11,000 Christians, the rest being mostly Sunnis. It is the capital of a province (Plate 105, Fig. 48).

History

Hama (*bibl.* Hamath; *class.* Epiphania) is another very ancient city which fought against the Assyrians in the ninth century B.C. Hama was conquered by the Arabs in A.D. 639, and this was the beginning of its real prosperity. In the Middle Ages it was the capital of a small principality; in 1108 it was taken by the Crusaders but recaptured in 1115 by the Moslems; it was destroyed by earthquake in 1157, and finally occupied by Saladin in 1178. Hama managed to preserve its political importance under the Egyptian Mameluks until 1342. Under Turkish rule Hama was the chief town of a pashalik, but as a small provincial town it was never of any great importance.



FIG. 48. *Town plan of Hama*

General Description

Hama is a picturesque town, comparatively little touched by European influence; there are no modern buildings in the centre of the town. The Orontes flows through the middle of Hama, and huge waterwheels raise the water from it to arched aqueducts. All along the Orontes gardens lead down to the river-banks, and it is possible to follow the river on either bank from one end of the town to the other. Hama contains some fine Arab houses, mainly of the eighteenth century. There has been little construction of modern houses, but there are a few on either side of the river, especially towards the station, and these include modern hotels, restaurants, baths, banks, garages, libraries, and schools. Like Homs, it is an important Arab market and an old centre of the weaving industry, famous for textiles, underclothing, and towelling. There are two modern lime-kilns on the south and south-west outskirts of the town. The railway station lies on the west side of Hama; to the north-west is the military airfield.

Communications

Hama is not so important a focus of routes as Homs. It lies on the main railway line from Rayak to Aleppo, and also on the main road from Damascus via Homs to Aleppo. There is an excellent road south-east to Selemiyeh, and a more important route west via Masyaf across Jebel Ansariyeh to the coast either north to Baniyas or south to Tartus. In addition there are several motorable tracks leading north-west from Hama to Sejar and villages on the east of the Ghab, as well as other routes leading north-east and east to the desert. R 3, 12, 13. L 1.

DEIR EZ ZOR

Deir ez Zor lies on the west bank of the Euphrates at an altitude of 630 feet. The population of 58,990 (1942) includes a majority of Moslems and only a few Christians, but there is a large element of Armenian refugees from Turkey. It is the capital of a province and an important military and air centre.

The ruins of the ancient Azaura, from which Deir ez Zor derives its name, lies south-east of the present town, which was made into the capital of a vilayet in 1867 by the Turks, who built the modern town to control the nomads. In 1918 it was occupied by an English force from Mesopotamia, then by Faisal, during his short period of power in Syria, and was finally taken over by the French military authorities in 1921–2.

The town of Deir ez Zor is almost entirely modern (Plates 109, 144). Besides the buildings belonging to the army, air force, and police force, there is a wireless station, civil and military hospitals, hotels, garages, and schools; there is a small bazaar. The Euphrates is here 250 yards wide with an average depth of 27 feet ($16\frac{1}{2}$ ft. at low water and 33–36 ft. in flood). The strength of the current varies from 2·2 miles an hour to 4·5 at flood. The river water is drunk unfiltered and is said to be very pure.

Communications

Deir ez Zor is the most important communication centre of the Euphrates valley in Syria and controls the chief river-crossing on the route to Mosul. Routes from Aleppo via Meskeneh and Rakka pass through the town on the way to Abu Kemal and Baghdad. It is the starting-point of a regular trans-desert route through Sukneh and Palmyra to western Syria. There are routes up the Khabur valley to Hassetche and the Jezireh, and eastwards to Mosul. R 24, 26, 28.

Suweida

Suweida lies on the western slopes of the Jebel Druse, about 60 miles south-east of Damascus, 3,018 feet above sea-level. The population is 7,831 (1942), almost all Druses. It is the capital of the Jebel Druse administration and an important military centre.

The name Suweida (*class.* Dionysias), like the old name Soada, means the 'little black', and is derived from the black stone of which all the buildings are built. It was inhabited in the Roman period and in the fifth century A.D. was the seat of a bishopric.

There are many ancient ruins in Suweida; a large reservoir, a temple, and a Christian basilica are the chief of these. The small Druse town has a modern hotel, restaurants, Turkish baths, Post Office, garages, libraries, and schools. The railway station is on the south side. There are a few native industries: silk weaving, tobacco, carpets, and embroidered articles. The water-supply is piped from the hills and also drawn from wells.

Communications

Suweida is the terminus of a narrow-gauge railway branch line from Ezraa on the Damascus–Deraa line. There is a good road north-west to the main Damascus–Deraa road at Sheikh Meskin. There are local roads leading south-east to Salkhad and south to Bosra eski Sham. R 5. L 6.



PLATE 105. *Hama and the Orontes*



PLATE 106. *Homs*



PLATE 107. *Zahleh*

Deraa

Deraa lies in the south-west Hauran near the frontier between Syria and Transjordan, at a height of 1,732 feet; it stands on the Wadi Zeidi, one of the main tributaries of the Yarmuk. Its population is 10,000 (1942), mostly Sunnis, and it is the capital of the Hauran province.

Deraa (*class*. Adraa) is the Edrei of the Bible, once the capital of Og the King of Bashan. The old town of Deraa lies on the west side of a deep valley: the ruins of a mosque built in 1253 can still be seen, as well as ruins of the Graeco-Roman period. The present town consists of a modern settlement with the railway station, government offices, hotels, Post Office, schools, and public gardens. The water-supply is from wells. (Plate 108.)

Communications

Deraa is the junction on the Hejaz railway for trains proceeding south through Transjordan, or west through north Palestine to Haifa: there is also a branch line eastwards to Bosra eski Sham. L 6, 7.

Roads. A first-class road from Damascus is continued into Transjordan, and local routes from the Jebel Druse, the Hauran, and the Jaulan all converge on the town. R 3.

Note

The Syrian census returns of 1942 were received too late for use in this chapter. The total population increased since 1938 by 8 per cent. to 2,696,260. But the increase is limited to towns except in the Jezireh, which almost doubled its registered population to 199,145. This must be due to the greater efficiency of the officials rather than to a spectacular rise of the birth rate. The Jebel Druse, a purely rural area, showed a slight decline (67,837).

APPENDIX TO CHAPTER VIII

GAZETTEER

THIS gazetteer includes (1) a table of the provinces of Syria and the Lebanon divided into kazas or administrative areas. The name of the kaza or area, or else the name in brackets, indicates the village or town which is the local administrative centre. Such places are usually municipalities. (2) After the table there is a description in alphabetical order of the smaller places of administrative or economic importance, mostly capitals of kazas. This section also contains a cross-reference to all towns and villages described either in the preceding section or in the chapter 'Ports'.

ADMINISTRATIVE REGIONS

Province	*Kaza*
SYRIA	
Damascus	Duma. Zebdani. Wadi el Ajam (Katana). Kuneitra. Nebek. Damascus area.
Aleppo	Idlib. Maaret en Numan. Harim. Kurd Dagh (Afrin). Azaz. Jebel Siman. Bab. Membij. Jerablus with Ain Arab. Jisr esh Shogur.
Hama	Hama. Selemiyeh.
Homs	None.
Hauran	Deraa. Ezraa. Zawiyeh (Fik).
Euphrates	Meyadin. Abu Kemal. Rakka. Deir ez Zor area.
Jezireh	Kamichlieh. Hassetche area.
Jebel Druse	Suweida. Salkhad. Shahba.
Latakia	Latakia. Haffeh. Jebeleh. Baniyas. Masyaf. Tartus. Ruad. Safita. Tell Kalakh.
LEBANON	
North Lebanon	Tripoli. Akkar (Halba). Zghorta. Batrun. Kura (Amiun).
Mount Lebanon	Baabda. Meten (Bhannes). Kesrwan (Rhazir, Juneh). Shuf (Beit ed Din). Aley.
South Lebanon	Merj Ayun. Jezzin. Saida. Tyre.
Bekaa	Zahleh. Baalbek. Hermil. Rashaya.

TOWNS AND PORTS

The population statistics are of 1932. The term *Services spéciaux* in the heading means that the place concerned was the residence of a French officer of the 'Services spéciaux du Levant' (*see above*, p. 176).

ABU KEMAL. Garages (2). Post Office. Wireless station. Police station. Customs post. Kaza capital. Pop. 1,000.

Abu Kemal is a frontier post on the right bank of the Euphrates at a height of 550 feet. It is a well-constructed village with stone houses and broad streets cutting at right angles. The preceding village was farther east but was destroyed by a flood, so the modern buildings are on high ground a mile back from the river. The ground is low and marshy towards the river; farther west it is fairly dry. The inhabitants are Sunnis. Maize, sesame, corn, and barley are grown; livestock consists mainly of sheep. About 2 miles downstream are the funeral towers of Irzi Baghus, similar and contemporary to those at Palmyra, placed on the summit of a cliff. They are the only remains of the ancient Giddan (*Assyrian* Hindari), destroyed by the meandering of the Euphrates to the north-east.

Communications. Abu Kemal lies within about 4 miles of the frontier with Iraq, and the desert road from Aleppo, Rakka, and Deir ez Zor is continued along the Euphrates valley to Baghdad. A route leading westwards through Palmyra connects with western Syria. R 26.

ALEPPO. *See above*, p. 211.

ALEY. Hotels (11). Casino. Post Office. Kaza capital. Pop. 3,125.

Aley is 7 miles south-east of Beirut as the crow flies. It is a long, straggling town with houses grouped about the main roads which pass through it. It is known as the Lebanese Monte Carlo and is, owing to its proximity to the capital, the principal and most popular summer station in the Lebanon. It stands at an altitude of 2,770 feet on mountain slopes surrounded by gardens, orchards, woods, and vines. There are two churches and a mosque; water-supply is from springs. During the summer a great part of the population of Beirut, as well as of its commerce and trade, is transported to Aley, which becomes a very busy town for a few months. The French High Commissioner and the President of the Lebanese Republic have their summer residences in Aley.

Communications. Rail: At Aley is the second of the two reversing stations on the narrow-gauge Beirut to Damascus railway. The station is at the north-eastern end of the town. L 5.

Road: Aley stands in the midst of a network of good surfaced roads which connect the principal villages and summer stations of the Lebanon. The most important of these is the Beirut to Damascus road which follows the railway. Aley is also linked southwards to Beit ed Din, which in turn is connected with Jezzin in the southern Lebanon by a hilly, but good road. R 6.

BAALBEK. Hotels (6). Cafés. Garages. Schools. Post Office. Police station. Kaza capital. Services spéciaux. Pop. 5,000.

Baalbek, a city rich in history and in historical monuments, stands within a mile of the watershed between the two main rivers, the Orontes and Litani. It stands at a height of 3,790 feet in the midst of the Bekaa and surrounded by an oasis of gardens, orchards, and rich cultivation. Its inhabitants are Mitwalis and Sunnis, with some Maronites and Greek Orthodox. It has secular and religious schools, Greek Catholic, Maronite, and Greek Orthodox churches and a mosque. There are tourist agencies and cars for hire. Very extensive Roman remains exist west of the town (*see* Fig. 6, Frontispiece, and Plate 62).

History. Very little is known about Baalbek in the period preceding the Seleucids. From its name (Baal Beka, or lord of the Bekaa) it would appear to have been founded by the Phoenicians. After the conquest by Alexander, when the Greeks settled in the country, the town took the name of Heliopolis, as the new-comers identified the Semitic Baal with the sun. Under Augustus, Baalbek lay in the territory of Beirut and was the centre of a flourishing cult. The Sun-god, now Jupiter Heliopolitanus, was adored in countries to the west, and the Roman emperors built a magnificent temple at Heliopolis itself, which was to replace an old, but very much smaller sanctuary. Between A.D. 138 and 217 temples were erected to Jupiter, Bacchus, and Venus; their splendour may be gauged by the magnitude of the ruins. In the Christian era, Baalbek was a centre of disturbances till Constantine (324–37) forbade the cult of Venus. He also built a great church, of which the roofless shell still stands. Theodosius (379–95) demolished a portion of the great courtyard and of the façade of the temple of Jupiter in order to build a church. Earthquakes increased the destruction. In 634, under Abu Obeida, the town became Moslem. Until 1517 (date of the Turkish conquest) it was the centre of rivalry and battles, amongst which the Crusaders under Raymond of Tripoli took part in 1176. This added to the destruction of the ancient buildings, which in the thirteenth century were transformed into fortifications—posterns, ramparts, loopholes, machicolated battlements, &c. In 1664 and 1759 there were violent earthquakes at Baalbek which added to the work of destruction.

Communications. Rail: Baalbek is on the main standard-gauge line between Rayak and Aleppo. L 1.

Road: The main road following the depression from Metulla to Homs passes through Baalbek. An important strategic road across the Lebanon leads north-west from the town and over the Col des Cèdres to Bsharreh and so to Tripoli. R 2, 8, 9.

BAB. Hotels (2), Garages (3), Post Office. Services spéciaux. Kaza capital. Pop. 9,000.

Bab lies 21 miles north-east of Aleppo at a height of 1,220 feet. It is



PLATE 108. *Deraa*



PLATE 109. *Deir ez Zor*

a moderate-sized agricultural town, the majority of whose inhabitants are Moslems, with a few hundred Armenians. To the east the town is bounded by gardens and orchards, while north-west and south-west there are vineyards. West of the town a hill, Sheikh Akil, rises to a height of 1,828 feet. Water-supply is from wells.

Communications. Bab is linked to Aleppo by a good road. Many tracks lead to the surrounding villages, and a second-class road goes north-east to Membij.

BANIYAS. *See 'Ports'*, p. 315.

BATRUN. *See 'Ports'*, p. 319.

BEIRUT. *See 'Ports'*, p. 298.

BLUDAN. *See* Zebdani.

DAMASCUS. *See above*, p. 207.

DEIR EZ ZOR. *See above*, p. 217.

DERAA. *See* above, p. 219.

DUMA. Post Office. Police station. Kaza capital. Pop. 10,000.

Duma is one of the largest towns in the Damascus oasis and is 6½ miles north-north-east of the capital, off the main road from Damascus to Homs. It stands at an altitude of 2,145 feet: 2 miles to the north the third Kalamun ridge, known locally as Jebel Ras Abu Zaid, rises to a height of 3,465 feet. The population is all Moslem. Water-supply is from the canals and wells of the oasis.

Duma is surrounded by the gardens and orchards of the Ghuta, so that from the main road the town appears less extensive than it really is. The gardens are watered by the Tora canal and its distributaries. To the west and south-west of the town there are olive-groves and orchards, but north-east and south-east these are replaced by vineyards. Market gardening is the sole occupation of the people; there are no local industries.

Communications. The main road from Damascus to Homs passes just south of Duma. A network of inferior roads and paths connects the town with the villages of the oasis. R 3.

HAMA. *See above*, p. 215.

HARIM. Hotel. Garage. Post Office. Police station. Services spéciaux. Kaza capital. Pop. 2,000.

Harim lies at the northern end of Jebel el Ala, about 35 miles west of Aleppo and 20 miles east of Antioch. It stands at a height of about 396 feet and is built round the citadel, which is on a high hill overlooking the town. The population is all Sunni. There is a mosque and two water mills.

Water-supply is from springs (one of which rises in the hill on which the castle stands), wells, and a stream, the Wadi el Berak, which rises in the mountains south-east of Harim and flows in a deep, narrow valley before debouching on the plain at Harim. Gardens and orchards bound the western side of the town. There is a cotton mill half a mile north of the town.

History. Harim originated after the Byzantine conquest of Antioch in 959, when the Byzantines built a castle to protect their flocks from the beduin. Suleiman ibn Kutulmish, who took Antioch in 1084, also seized Harim. In 1098 the Franks in turn conquered the town and made it a base for their military expeditions. They called it Harrem or Castrum Harench. After several attempts Nur ed Din in August 1164 made himself master of the town, and although the Christians tried to reconquer Harim several times it finally remained in the hands of the Moslems. The castle was entirely rebuilt by Malek ez Zahir Ghazi, son of Saladin, which fact is commemorated by an inscription over the entrance gate, dated 1199.

Communications. Harim lies on a branch road, 2½ miles south of the main route from Aleppo to Antioch. Another road leads south for 33 miles to Idlib on the Latakia–Aleppo road.

HASSETCHE. Garage. Schools. Services spéciaux. Kaza capital. Pop. 7,835 (1942).

Hassetche, the administrative centre of the Jezireh, stands at the junction of the Khabur and its chief tributary, the Jagh Jagh. It marks the site of the ancient Assyrian Shadikanni. The modern town, with a population mostly of Christian refugees from Turkey, has two churches. Hassetche arose round a military post established in April 1922, and the town has grown rapidly. It is a market and victualling centre for the Arab tribes in the Jezireh, gathering produce from the Khabur and Jagh Jagh valleys. There are some ancient remains from a Roman military post (Plate 142).

Communications. The desert road from Deir ez Zor passes through Hassetche. There are routes leading north-west along the Khabur to Ras el Ain (*Turk.* Resülayn), north-east along the Jagh Jagh to Kamichlieh, and east to Ain Divar and Jeziret ibn Omar in the Duck's Bill. R 28, 29, 30.

HERMIL

Hermil, on the west flank of the northern Bekaa, lies 24 miles south-west of Homs and 31 miles east of Tripoli, and is built on three hills separated one from the other by fine gardens. It is the religious centre of the Mitwalis (Shia Moslems) of the Lebanon, and its inhabitants are all Mitwalis. Nearly 4 miles south of Hermil is a mound on which a strange pyramid, Kamuar el Hermil, has been erected, carved with hunting scenes. This monument appears to date from the first century or second

century B.C., and is purely native Syrian—neither Greek nor Roman—in origin, and may have been the tomb of a local prince.

About 4 miles south-west of Hermil is Ain ez Zerka, 'the blue spring', one of the principal sources of the Orontes. Five hundred yards downstream from the spring on the right bank, an artificial cave of three stories has been fashioned from the cliff. It is called Deir Mar Marun, 'convent of St. Maron', or Mugharat er Rahib, 'the monk's cave'. Several altars have been dug from the living rock, a staircase, and some small cells. According to tradition it was the retreat of St. Maron, the founder of the Maronites.

Communications. There is a good road south-east (10 miles) to Ras Baalbek, which is on the main road from Palestine to Homs, and also on the main railway line from Rayak to Aleppo. There are fair-weather tracks to Kattineh (also on the Palestine–Homs road), and to Hadideh on the Tripoli–Homs road. R 2, 10.

HOMS. *See above*, p. 213.

IDLIB. Hotels (2). Garages (4). Post Office. Services spéciaux. Kaza capital. Pop. 12,000.

Idlib lies about 35 miles south-west of Aleppo around a hill 1,470 feet high. The majority of the population are Moslems. Water-supply is plentiful; there are many wells in Idlib and the surrounding country.

Idlib stands in a fertile basin surrounded by hills 400–1,500 feet high, on the north by Jebel Barisheh, on the west and south by Jebel Zawiyeh. The town is surrounded by olive-groves, pomegranate and fig trees, and vineyards: it is a centre for cotton growing. Its principal products are olive-oil, cereals, and a small amount of cotton manufactures.

Communications. The main road from Latakia to Aleppo passes through Idlib. A second-class road leads south-east from the town to the main road of the interior between Hama and Aleppo, near the village of Maaret ed Dabseh. Another road leading north-north-west connects with Harim. Tracks connect with the surrounding villages. R 15.

JEBEIL. *See 'Ports'*, p. 319.

JEBELEH. *See 'Ports'*, p. 315.

JERABLUS. Hotels (2). Post Office. Customs and Police Post. Kaza capital. Pop. 3,000.

Jerablus stands on the right bank of the Euphrates where the north Syrian frontier crosses it. It is a small town, half of whose inhabitants are Moslems and half Armenian Christians, and it lies at a height of 1,287 feet. Jerablus is on the site of the ancient Karkemish, the ruins of which, together with the railway station, lie in Turkish territory about a mile north of the modern town. In ancient times this was one of the chief

crossings of the Euphrates. Karkemish was succeeded by the Greek city of Europus (not to be confused with Dura-Europus farther south).

Communications. Rail: The Baghdad railway passes through Jerablus, but the station and line are in Turkey. There is an important bridge over the Euphrates at this point. L 3.

Road: There are no first-class roads, but fair-weather roads lead south-west to Membij and so to Aleppo, south-east to Tell Ahmar, and westwards along the frontier to Choban Bey.

JUNEH. *See* '*Ports*', p. 320.

KAMICHLIEH. Hotel. Garage. School. Services spéciaux. Kaza capital. Pop. 8,000.

Kamichlieh in the Jezireh, 44 miles north-east of Hassetche, is a twin town with Nisibin (*Turk.* Nusaybin) which is in Turkey. Its inhabitants are Jews from Nisibin, Christian refugees from Turkey, and a few Moslems and Kurds. The town is quite modern and owes its origin to the French military post established there in August 1926. As it lies in the centre of a rich agricultural region, the town grew up rapidly. In the ancient world Nisibin was a native principality, which later became a frontier fortress and a Roman 'colony' in the Roman Empire.

Communications. Rail: About a mile east of Kamichlieh the Aleppo–Baghdad railway crosses the Syrian frontier in its curve south-east across the Duck's Bill. L 3.

Road: A good desert road following the Jagh Jagh leads south-west to Hassetche. Others lead westward along the frontier to Ras el Ain (*Turk.* Resülayn) and Tell Abiad (*Turk.* Akçakale), and eastwards to Jeziret ibn Omar and Pesh Khabur. R 29.

KATANA. Garage. Post Office. Police station. Services spéciaux. Kaza capital. Pop. 2,400.

Katana stands at a height of 2,900 feet about 20 miles south-west of Damascus at the base of the third Kalamun ridge. The inhabitants are Moslems, Greek Orthodox, and Syrian Catholic.

The town lies at the entrance of the plain called Sahel es Sahra. To the north-east Jebel Hashin rises steeply to a height of 3,963 feet, while to the west the foothills of Mount Hermon, known locally here as Jebel Burkush, rise more gently. About 7 miles to the south lies the Nahr el Awaj with the lava mass of El Wara on its southern bank, beyond which stretches the Hauran.

Communications. Katana lies 4 miles west-north-west of Artuz on the main road from Damascus to Jisr Benat Yacub. An indifferent road runs north-east along the slopes of Jebel Hashin, and joins the main Beirut–Damascus road. Motorable tracks lead north-west and west to villages on the lower slopes of Mount Hermon. R 4.

KUNEITRA. Hotel. Garage. Post Office. Police station. Services spéciaux. Customs post. Kaza capital. Pop. 1,200.

Kuneitra, the chief town of the Jaulan, stands at a height of 3,230 feet, about 50 miles south-west of Damascus. Almost all the inhabitants are Circassian, and a Circassian squadron of the army is posted in the town. Kuneitra is a modern, well-built town, and is an important centre for the Circassians who live in fourteen surrounding villages, but since the Druse rebellion of 1925 about a dozen Christian families have installed themselves in the neighbourhood.

Communications. Kuneitra lies at a cross-roads; it is on the main road from Damascus to Jisr Benat Yacub, and it is the customs post for travellers to Palestine. The road from Sidon and Merj Ayun passes through the town and is continued south-eastwards to Sheikh Meskin, where it connects with the Deraa–Damascus road, and on to Suweida, the capital of the Jebel Druse. A fair-weather road leads south-south-west to Fik (30 miles) and El Hammeh (44 miles), which is on the Haifa–Deraa railway. R 4, 5.

LATAKIA. *See* '*Ports*', p. 311.

MAARET EN NUMAN. Restaurant. Post Office. Police station. Services spéciaux. Kaza capital. Pop. 5,250.

Maaret en Numan lies on the gently rolling eastern slopes of Jebel Zawiyeh, at a height of about 1,810 feet, about 36 miles north of Hama, and 45 miles south-west of Aleppo as the crow flies. The inhabitants are nearly all Moslem.

In many ways Maaret en Numan resembles Aleppo with its severe grey stone houses surrounded by dusty gardens. It has a busy bazaar, an arcaded square by the Great Mosque, and vaulted streets, as in Jerusalem. There are many ruins of classical antiquity, and from the Arab epoch two very fine monuments, the work of the same architect, which may be regarded as typical Arab architecture of northern Syria at the time of the Crusades; one of these, the minaret of the Great Mosque, resembles many in Aleppo. At the northern end of the town there is also a Khan dating from the sixteenth century, and north-west, on a hill, there are remains of a citadel.

History. The name Maaret en Numan (*class. Arra*, *med. Marra*) is derived from the follower of Mahomet, En Noman ibn Beshir, who became governor of this region under Moawiya. It was conquered by the Moslems in 637, and from early Arab times is known as an important and prosperous centre, surrounded by gardens and rich cultivation. During the whole of the Middle Ages the town followed the fortunes of Homs and Aleppo, passing from hand to hand: its fortifications were dismantled many times, and the town itself was pillaged on several occasions, notably by the Byzantines in 968, and by the Crusaders in December 1098,

who massacred 20,000 people. It was retaken by Zangi in 1137, and became a dependency of the Ayyubid principality, and afterwards part of the province of Hama under Mameluks and Turks, but was governed independently by a local prince in the seventeenth century. It is principally famous as the home of the great Arab poet Abu el Ala el Maarri, born in 973, whose tomb is still shown.

Communications. Maaret en Numan is on the main road between Hama and Aleppo. Several poor tracks lead to surrounding villages. R 3.

MASYAF. Garages (2). Post Office. Services spéciaux. Kaza capital. Pop. 2,000.

Masyaf is half-way between Baniyas on the coast and Hama, about 24 miles south-east of the former. It stands on the gently undulating south-eastern slope of Jebel Ansariyeh at an altitude of 1,600 feet. Most of the inhabitants are Ismailis. There is drinking-water. Masyaf is surrounded by a rampart built in 1248 and pierced by several gates. To the north-east away from the town, but inside the enclosure, stands a castle on a small hill about 35 feet above the town at the foot of a ridge which rises precipitously.

History. Masyaf is an ancient Arab fortress. The Crusader Raymond de Saint Gilles in his march on Tripoli conquered it in 1103. The Ismailis under Rashid ed Din Sinan took possession of it in 1140–1. Saladin beseiged it. In the fifteenth century the castle passed from the province of Tripoli to that of Damascus, and had a garrison of Mameluks. In the nineteenth century it was the stake in a struggle between Ismailis and Alawis.

Communications. Masyaf stands on the main road which passes over Jebel Ansariyeh from Baniyas on the coast to Hama. Another road reaches Masyaf from Tartus. Tracks lead north to Asharneh on the Orontes, and south to many small villages in the southern Ansariyeh. R 12, 13.

MEMBIJ. Hotel. Post Office. Police station. Kaza capital. Pop. 2,000.

Membij (*class.* Hierapolis) is 46 miles north-east of Aleppo. It stands on a stony plateau at an altitude of 1,470 feet and is surrounded by gardens. Its population contains Sunni Moslems, Kurds, and Armenians. In the ancient world Hierapolis was the site of a famous temple of Atargatis, a Hittite deity whose worship remained unchanged from earliest times till the end of the Roman Empire. A description of this cult was written by Lucian (3rd century A.D.) in his *About the Syrian Goddess.* Of the town which grew up around the temple there now remains only the surrounding wall.

Communications. Membij is connected by road to Aleppo, second class as far as Bab, beyond which there is a very good road. Tracks lead north-east to Jerablus, and to the many villages in the surrounding country.

MERJ AYUN. Hotel. Restaurant. Garage. Post Office. Kaza capital. Pop. 2,532.

Merj Ayun lies nearly 20 miles south-east of Sidon, and 25 miles north-east of Tyre, and stands at a height of 2,570 feet, in the fertile valley of Merj Ayun which marks the beginning of the depression continued by the Jordan, Lake Huleh, and Lake Tiberias in Palestine. The majority of the population are Greek Orthodox, and it is the seat of a Lebanese government official, a Greek Orthodox, and a Greek Catholic bishop.

Merj Ayun is a modern town (it is often prefaced by the word 'Jedeidet' which means 'new') and has no remains of historical interest. The rich valley of which it is the centre is well watered by many springs which gush forth forming streams which are bordered with willows, poplars, and mulberry trees. Orchards abound, and wheat is grown.

Communications. Merj Ayun stands at the cross-roads formed by the road from Sidon which continues eastwards to Kuneitra and the road from Metulla in Palestine northwards to Homs. Other roads lead north-east to Hasbaya and Rashaya. R 2, 5.

MEYADIN. Café. School. Customs. Police post. Kaza capital. Pop. 2,300.

Meyadin (*anc.* Audattha) stands on the right bank of the Euphrates 68 miles below Deir ez Zor and 66 miles above Abu Kemal, and 8 miles below the junction of the Khabur with the Euphrates. The inhabitants are mostly Sunnis, but there are a few Christians. It stands on a tell or mound covered with ruins and debris. It possesses a mosque with a leaning tower, a bazaar, and several shops, but there is no suitable accommodation for Europeans. To the west of the town are a few gardens, pomegranate trees, and palm trees. The country round Meyadin contains several thousand head of livestock, mainly sheep. Maize, wheat, and barley are grown. Wool and butter are exported on mule-back to Aleppo.

Communications. Meyadin lies on the main desert road which goes south-east from Aleppo through Rakka and Deir ez Zor to Abu Kemal. R 26.

NEBEK. Hotel. Restaurant. Post Office. Services spéciaux. Airfield. Kaza capital. Pop. 5,092.

Nebek is about 45 miles north-east of Damascus and about 54 miles south of Homs. It stands on a hill, at a height of 4,720 feet in the plain between the main Anti-Lebanon massif and the first Kalamun ridge.

Its population is almost all Sunni, but it has a Syrian Catholic bishop. On the north-west side of the town is a landing-ground. Water-supply is from a copious spring, and a seasonal stream.

Communications. Nebek stands on the main Deraa–Aleppo road, almost half-way between Damascus and Homs. A mountain road, suitable for light motor vehicles, strikes north-west from Nebek across the Anti-Lebanon by the pass of Zemtani, and joins the Metulla–Homs road half

a mile north of Labweh. A fair-weather route leads north-east to Palmyra, and an indifferent road south-west through Yabrud to Damascus. R 3.

Palmyra. Hotels (2). Garage. Post Office. Wireless station. Landing-grounds.

Palmyra (*anc.* Tadmor) lies in the midst of the desert at a height of 1,336 feet, dominated by several chalky ridges. To the south-west is the last ridge of the third Kalamun range, Jebel Haian (2,742 ft.), and to the north-west and north are Jebel et Tar and Jebel Mohammed ibn Ali. South and east of Palmyra lie a series of salt pans. Each of these bare and rugged ridges have funeral towers scattered on their slopes, and their highest peak is crowned by an old Arab fortress. The Iraq pipe-line passes through the village, which now is an ancient city in ruins, whose population has been reduced to a small village of sedentary beduin. At one time they dwelt within the walls of the ancient temple of Bel, but since the last war they have been moved outside and the temple enclosure has been partially restored. It is the greatest and most beautiful collection of ruins in the whole of Syria. Water is from a perennial well. (Plates 25, 66).

History. Palmyra dates from the classical period; its former name of Tadmor is Semitic. The origin of the town is obscure, but it existed about 1100 B.C. It passed under the domination of the Seleucids after the partition of the empire of Alexander, but regained its independence in 64 B.C. when Syria became a Roman province, and was rich enough, twenty years later, to excite the greed of Mark Antony, who organized a raid against the town.

The importance of Palmyra as a caravan centre in antiquity and its history in the Roman Empire have been described above, pp. 118, 121. After the revolt of Zenobia (A.D. 272) the town was pillaged and its walls dismantled, but it remained a centre of trade. Later emperors refortified the place and it continued to be both a fortress and a commercial centre in the early Arab period. In 633 it was occupied by Abu ibn Walid, in 745 by the last of the Omayyad caliphs, Maruan II, who razed the defences of the town, but probably reconstructed them subsequently. Palmyra was laid in ruins by an earthquake at the end of the eleventh century. It then passed into obscurity until the end of the seventeenth century when two English traders visited the site. Since then Palmyra has been fully explored and excavated, especially of recent years. The principal buildings are the temple of the Syro-Phoenician god Bel, a colonnade 1,100 yards long, a monumental arch, a theatre, porticoes, an esplanade, minor temples, and domestic buildings.

Communications. Palmyra is a most important desert route centre, as it lies half-way between the towns of western Syria and the Euphrates valley. Routes from Aleppo, Hama, Homs, and Damascus converge from the west and from Rakka, Deir ez Zor, and Abu Kemal from the east. R 20–25.

RAKKA. Kaza capital. Pop. 2,000.

Rakka stands on the left bank of the Euphrates about 50 miles downstream from Meskeneh, and 74 miles above Deir ez Zor, just above one of the many mouths of the Balikh. The modern settlement lies about a mile from the river in the south-west corner of a large semicircular enclosure, formed by an old brick wall with round bastions at intervals. There are remains of a mosque in the centre. To the west of the Arab village, outside the enclosure and on high broken ground, is a Circassian colony. There is a certain amount of agriculture around Rakka, and the village is a market for the beduin.

History. Rakka occupies the site of an ancient Greek city—Nikephorium, founded by Alexander in his campaign of Thapsakus and known later, in the Roman era, as Kallinikum. This was a strong fortress and important market on the frontier of the Roman Empire, and continued as the same under the Byzantines and Persians. In the Arab era too it played an important part under the Abbasids; in 772 the caliph El Mansur founded a new town, Er Rafiqua, where Harun er Rashid built himself several palaces. Little by little it supplanted the old town; but the Mongol invasions in the thirteenth century finally destroyed it. About sixty years ago the site was almost unoccupied, but the village has since grown in size and importance.

Communications. Rakka is connected by ferry with the main desert road from Aleppo to Abu Kemal, which follows the right bank of the Euphrates. A route runs south-west to Palmyra by way of Resafa and Sukneh. Another road leads north along the Balikh valley to Tell Abiad. R 23, 26, 27.

RUAD. *See* '*Ports*', p. 317.

SAFITA. Hotels (2). Garage. Post Office. Services spéciaux. Kaza capital. Pop. 3,500.

Safita lies inland at the south-eastern end of Jebel Ansariyeh, 34 miles west-north-west of Homs, and 16 miles south-east of Tartus. It stands at a height of 1,320 feet in the centre of a well-wooded region, rarely found in the Ansariyeh; most of the population are Greek Orthodox. The houses, grouped around the old fortress, are well built and of alternate bands of black and white stone. The town is built round the ruins of a Crusader castle which stands about 2,370 feet above two valleys which isolate it on the north and south.

History. Safita, the Chastel-Blanc of the Templars, is half-way between the Crusader castles at Tartus and Kalaat el Hosn. The origin of the castle is unknown, but probably dates from the beginning of the twelfth century. It is known that it was held by the Franks, and fell in 1167 into the hands of Nur ed Din, who dismantled it. The Crusaders retook it, and it was handed over to the Templars. In 1202 an earthquake destroyed the walls and the castle was partially rebuilt. Hence the remains

date back from the thirteenth century with the exception of the Chapel which is built in the style of the twelfth century. Safita was finally conquered by the Egyptian Beibars in 1271.

Communications. Safita is joined by a second-class road to Tartus. To the south a poor road joins the Tripoli–Homs road at Abudiyeh or Tell Kalakh. Other tracks lead to villages in the mountains. R 11.

SAIDA. *See 'Ports'*, p. 322.

SALKHAD. Hotel. Garage. Post Office. Services spéciaux. Kaza capital. Pop. 1,900.

Salkhad lies about 28 miles south-east of Suweida, the capital of the Jebel Druse, and 23 miles east-south-east of Bosra eski Sham. It stands at a height of 3,690 feet on the southern slopes of a tell about 4,290 feet high which marks the site of an ancient volcano. The inhabitants are mostly Druses, and a few Greek Orthodox. It is a Druse sanctuary. There is a racecourse, and well-provisioned bazaars. The climate is healthy. The town is surrounded by gardens, and the water-supply is derived from wells and tanks (*birkhet*). There are a few local specialities—tobacco, dolls, babies' bonnets, wool carpets, and goats' hair matting.

History. Salkhad is the Salka of the Bible, which mentions it as the frontier town of the kingdom of Bashan. There are few Roman remains. In the Arab period it became prosperous, as with Bosra eski Sham it assured the defence of Damascus from the south. A citadel, resting in the crater of the volcano, was built in the Crusader period.

Communications. Salkhad is linked by an indifferent road to Bosra eski Sham and thence by road or rail to Deraa and to Suweida. Other roads lead south across the border into Transjordan. There is a landing-ground south of the town.

SELEMIYEH. Post Office. Dispensary. Police station. Services spéciaux. Kaza capital.

Selemiyeh lies in the steppes 20 miles south-east of Hama, and 27 miles north-east of Homs, at a height of about 1,500 feet. It is the head of a kaza whose population (about 15,000) is mainly composed of Ismailis, and has become important agriculturally; it possesses a School of Agriculture. Cotton in particular is grown, and pedigree horses bred. The ruins of the citadel are half hidden by shops; there is a mosque built of basalt in 1088, and an ancient well-preserved hammam or bath. In addition there are numerous Byzantine remains, mostly of the basilica. Hardly a house is without either ancient inscriptions or sculptures.

History. Selemiyeh (*class.* Salamias), judging by the quantity of ancient ruins, must have been a place of importance in antiquity, especially since the Christian epoch. In Arab times it is only known as being the

residence of a branch of the Abbasid family, and of the first Ismailian prophets in the tenth century.

Communications. Selemiyeh lies off the main roads of importance in Syria, and it has only one good road which joins it to Hama. A desert route goes south-east to Palmyra. A fair-weather track leads south-west to Homs.

SHAKKAH. *See 'Ports'*, p. 318.

SIDON. *See 'Ports'*, p. 322.

SUR. *See 'Ports'*, p. 323.

SUWEIDA. *See above*, p. 218.

TARTUS. *See 'Ports'*, p. 316.

TELL KALAKH. Garage. Dispensary. School. Post Office. Police station. Services spéciaux. Kaza capital. Pop. 1,052.

Tell Kalakh lies about half-way through the Tripoli–Homs gap, 24 miles north-east of Tripoli, and 26 miles west of Homs, at a height of 825 feet. South-west of the town on a hill, 1,039 feet high, are the ruined remains of a castle. Water-supply is from wells and from a spring rising in the bed of the Wadi es Serar, a tributary of the Nahr el Kebir.

Communications. Rail: Tell Kalakh has a station, north-west of the town, on the standard-gauge line from Tripoli to Homs. L 2.

Road: The first-class road from Tripoli to Homs passes through the town. Another road leads north-west to Safita and Tartus. R 10, 11.

TRIPOLI. *See 'Ports'*, p. 306.

TYRE. *See 'Ports'*, p. 323.

ZAHLEH. Hotel. Post Office. Schools. Kaza capital. Pop. 12,848.

Zahleh is one of the most important towns in the Lebanon, both as capital of a kaza and as a summer station renowned for its healthy climate. It is 23 miles west of Beirut at the foot of the eastern slopes of Jebel Sannin, at a height of 3,120 feet. Of the population the majority are Maronites; the town is reckoned the Maronite capital of the Lebanon. It is built in terraces up the steep mountain slopes and divided into two by the Nahr el Bardauni torrent, which rises in Jebel Sannin, and drops to the Bekaa in a wild, wooded, and narrow gorge. Zahleh has eight churches, and several schools, amongst which are the Collège des Frères Maristes, a Jesuit School, a Greek Catholic Collège Saint-Nicolas, and the School of the Sisters of the Sacred Heart. There are good shops in the town, and trading is brisk. On all the mountain slopes around vines are intensively grown (Plate 107).

Communications. Rail: Moallaka, a Moslem village about half a mile to the south, is the station for Zahleh on the narrow-gauge Beirut to Damascus railway, which at Rayak joins up with the standard-gauge line to Aleppo. L 5.

Road: The main road from Metulla in Palestine to Homs passes through Moallaka, and almost 4 miles south-west is Shtaura, the junction of this road with the Beirut–Damascus main road. Zahleh itself is linked to Beirut by an important strategic road which crosses the Lebanon by a pass between Jebel Sannin and Jebel Keniseh. R 2, 6, 7.

Zebdani. Hotel. Garage. Dispensary. Post Office. Police station. Services spéciaux. Kaza capital. Pop. 4,400.

Zebdani stands at a height of 3,990 feet in the Zebdani valley between the Anti-Lebanon and Mount Hermon. It lies at the northern end of the widest part of the depression, the Sahel Madaya, before this closes southward into a narrow gorge. To the east and west of the town the mountain slopes rise steeply covered with vines, and abounding with springs; on the west is Jebel Sheikh Mansur (6,220 ft.), a prolongation of Mount Hermon, on the east are Jebel Ain ed Dawli (5,620 ft.) and Jebel Ain Ansur (6,887 ft.).

The majority of the population are Moslem; the rest are Christians. The modern town stretches out eastwards in the direction of the railway station; in the older, western part of the town the houses are built in terraces and made of beaten earth. There is a church, mosque, and flour-mill.

Four miles east of Zebdani is Bludan (altitude 4,950 ft.), a village of 700 inhabitants, mostly Christian (400 Greek Orthodox, 200 Moslems, and about 100 Protestant), which is the most important summer station in the Anti-Lebanon, and much frequented by the residents of Damascus. It has a Casino, hotels, and Post and Telegraph Office.

History. The site of Zebdani is ancient. Tradition places the tomb of Adam in Zebdani, and Noah's Ark is reputed to have rested on the neighbouring mountains. About A.D. 700 it became the seat of a bishop and possessed a monastery of considerable size, which prospered until the time of the Crusades. The Moslems under the Sultan Selim conquered Zebdani, killed its thousand monks, and converted their church into a mosque (*c.* A.D. 1516).

Communications. Zebdani is on the narrow-gauge Beirut to Damascus railway. L 5.

A first-class road from Damascus which follows the Barada valley, passes through Zebdani, and is continued north-east as a fair-weather road to Taliyeh on the Metulla–Homs road. Another first-class road winds up the mountain slopes east of the town to Bludan. R 8.

CHAPTER IX

HEALTH AND HYGIENE

Sources of Medical Information

LITTLE was known about the diseases of Syria when the Turkish occupation came to an end. In the succeeding few years several papers (in English, French, and German) were published, dealing with observations made in military hospitals: these papers are not very satisfactory material, for the military patient has generally served in many places, so that the localities in which diseases occur may be unreliable. Since about 1922 very little has been recorded, and large parts of Syria remain quite unstudied. Because of political changes, there are few official publications relating to health, and the Mandatory Power never established any large laboratory or institution for the study of tropical diseases. The medical school of the American University of Beirut has not added much to our knowledge of Syrian diseases. But in 1935 the medical inspectorate of the Syrian republic established a village dossier, based on local sources of information, which contains a record of the state of health of each village in the Syrian republic; but this does not seem to have been published.

Western Syria has many features in common with Palestine. Moreover, the people and their manner of life are the same, as are the diseases and insect pests, so far as is known. It is therefore justifiable perhaps to assume that the diseases of Palestine and Transjordan, which are well known, will occur under similar conditions in western Syria, until more accurate knowledge is available.

MALARIA

Malaria is probably the most prevalent epidemic disease of Syria, but as yet no general survey of it in Syria as a whole has been attempted, and there are no statistics whatever for many important places. Elsewhere the French say no more than that the disease is 'somewhat prevalent', or 'regrettably common'. But a large body of knowledge exists about malaria in the essentially similar territories of Palestine and Transjordan.[1]

[1] In 1936 a map on the scale of 1/150,000 was made of all malarial regions in the Lebanon, but this was not accessible for this study.

Geography of Syrian Malaria

Malaria is grave in some of the richest and best watered coastal areas, though it is only actually recorded from a few places: the Akkar plain and Tripoli itself are seriously malarious. Latakia city has no stream or marsh, but there are a number of wells and water hoists in gardens, and rain-water cisterns cut in the rock beneath the houses. But in spite of this the spleen rate is only 0 to 3 per cent. in boys in different parts of the town. The position in Beirut is probably somewhat similar; in the town malaria is said to be quite rare, but the suburbs are malarious, and the river is a dangerous source.

There is no information as to the prevalence of malaria in the numerous villages in the hills and mountains. If we may judge from Palestine as it was before the village malaria was controlled, one would expect the disease to be very common in the villages up to about 3,000 feet. Malaria is reported generally from the interior of Lebanon and Latakia province.

The marshy upper valleys and plains lying east of the mountains are certainly malarious. There is serious malaria in the Orontes valley from Hama downwards, and in the Bekaa, since there is a large marsh at Ammik and much malaria in the villages of Ammik, Deir Tahanish, Terbola, and Shebrekieh. The military authorities have generally regarded Rayak as nearly free of malaria, though there was an outbreak with several deaths among troops in 1923. At that time the local stream, the Wadi Yafufeh, was straightened and given two alternative channels, but the authorities found themselves unable to drain other swamps. No recent information is available.

Little is known about malaria in the foothills of the northern frontier. One would expect very severe malaria wherever there is a small stream or even a minute trickle of water, in which *Anopheles superpictus* could breed: this probably explains the serious malaria along the river Sajur Su and at Tell Abiad (north of Rakka): Aleppo also is malarious. Some of the Assyrian villages along the river Khabur are very malarious: spleen rate 60 per cent. in 1938. Moreover, careful malaria surveys carried out in similar areas of Iraq north of Mosul have shown hyperendemic malaria with spleen rates of 70–80 per cent. But the large rivers, the Euphrates and Tigris, are not dangerous: it is definitely stated that there is no malaria at Jerablus and Deir ez Zor, and very little at Rakka itself. This is consistent with the well-known rarity of malaria at Mosul and Baghdad. Also the Jebel Druse is free

from native malaria, though it is sometimes introduced by peasants who have gone to work in the Hauran.

Perhaps the largest and most difficult problem is the malaria of Damascus and the Ghuta; there are some exceedingly malarious places in the Damascus plain: at Jermana, south-east of Damascus, the spleen rate is 80 per cent., and the surrounding marshes are also very malarious. For Damascus city no recent figures are available, but in 1922–4 malaria and malarial cachexia ranked third or fourth among the causes of death and were credited with 8–9 per cent. of all deaths. All the barracks were malarious, especially the Arsenal and the Hamidiyeh: in them 20–50 per cent. of troops were sick with malaria each season. It is not known what antimalarial work may have been undertaken in recent years: in any case control is peculiarly difficult in this area, which should certainly be regarded as dangerous.

Nothing is known about the incidence of malaria in the villages and oases of the Syrian desert. From analogy with the Libyan desert, and from what is known about central Arabia, one might hazard a guess that even the most remote places are malarious, if they possess gardens and irrigated areas.

Very little rice is grown in Syria and the Lebanon. This source of *Anopheles* mosquitoes may therefore be disregarded.

Mosquitoes

From the foregoing it is clear that the disease occurs in a number of very different types of country. The key to the distribution is in the study of *Anopheles*. The following kinds are important:

1. *Anopheles elutus* generally breeds in swamps and marshes, or in slowly flowing reedy or grassy streams, in irrigation channels and gardens; it will breed freely in water with up to 1 per cent. of salt, which is too brackish for drinking. *Anopheles elutus* is the only member of the *maculipennis* group of anopheles found in Syria. This insect hibernates in the adult stage only, and breeding is suspended from November to April: in winter the females sleep in houses and stables.

The insect is a major carrier of malaria. It will fly at least 4 miles, in numbers sufficient to be serious; in autumn they will go farther still, searching for winter quarters. At this season they may transmit malaria in places from which they are completely absent at other seasons.

This is doubtless the species which is responsible for most of the malaria in the fertile coastal plain and in large swampy areas such as the Bekaa.

2. *Anopheles superpictus* may be found breeding in stagnant or slowly moving water along with *elutus*. But it most commonly occurs, unlike *elutus*, in mountain streams with rough rocky beds. The larva does not actually live in water which is moving rapidly, but rather in little sheltered spots, however small they be, along the stream's edge, and is very common in streams which are nearly dry, among boulders and in very shallow water, or in small irrigation channels and mill-races. The adult will commonly fly several miles. This species passes the winter in the adult stage, females sleeping in houses, barns, and stables. From about November to the end of March there are no larvae or other aquatic stages. *Anopheles superpictus* often occurs in houses with *A. elutus*: it seems to be less effective as a transmitter than *A. elutus*, but can produce epidemic malaria.

There is no doubt that this insect is responsible for malaria in hilly regions, which have numerous stream-beds that are nearly dry in summer. Such areas occur on both flanks of the coastal mountains, and all along the northern frontier.

3. *Anopheles sergenti* tends to breed in the same type of water as *A. superpictus*. The larvae are not easy to find and frequently are overlooked. This insect tends to be common from September to November, at which season it is perhaps the commonest *Anopheles* in Palestine: at other times of year it is so rare that it can hardly be discovered either as adult or larva. But nothing is yet known about its distribution in Syria.

4. *Anopheles bifurcatus* hardly breeds (in Palestine and Syria) in surface waters. It chooses cold water underground, for instance rain-water which has been accumulated in caves and tombs, and the rain-water cisterns (sometimes called *birkhet*) which are cut in the rock beneath villages and within the courtyards of houses. Hence it produces intense urban or village malaria, which was very serious in villages in Palestine at altitudes up to 3,000 feet until it was controlled rather over twenty years ago. It is suspected that the same condition prevails widely in Syria, where it is known that *A. bifurcatus* is widely distributed and found in several of the towns (including Beirut). Thus intense malaria may exist very far from obvious breeding-places. The species breeds all the year round.

To sum up the entomological evidence, the carrying species occur in almost every type of water. Attention should be paid to certain unusual breeding-places which would otherwise be overlooked, to the cisterns under the villages, the minute trickles in dry wadis, and the salt springs.

The only type of water which appears to be perfectly safe is the large river, i.e. the Euphrates and Tigris. In Syria these are large but rather turbulent streams, running in beds cut deeply into the ground, and therefore not likely to flood. There is positive evidence that along these rivers there are no enlarged spleens and no native malaria.

Dangerous Seasons

Cases of malaria occur at all seasons, but show a well-defined period from May to October with a maximum in July and August. Benign tertian malaria (*Plasmodium vivax*) is most common in the earlier part of the summer, and malignant tertian (*P. falciparum*) in late summer and autumn. But the female *A. elutus* and *superpictus* winter in houses and occasionally bite at that season; they may acquire the malaria parasite from one person, incubate it, and transmit it to others.

In Syria the amount of malaria that occurs in the summer is closely dependent on the rainfall of the previous winter: if the rain has been above normal, and particularly if there was much rain at the end of winter, the springs will be full, there will be plenty of water for irrigation, and some of the winter floods may continue to produce mosquitoes all through the summer. In controlling malaria it should be unnecessary to give attention to winter floods: the important thing is that possible breeding-places should be under control by the end of March.

Malaria is one of the commonest diseases, coming second (after ophthalmic cases) among the conditions seen in the outpatients' department. Even in peace-time grave complications, cerebral malaria, blackwater fever, and others, are not rare. In war-time a certain number of men are far from medical aid and must suffer from inevitable neglect. It may be a military necessity to move troops without protection from malaria. In such circumstances, very large numbers of cases of malaria, some of them grave, must be expected. Steps must be taken to impress on the ordinary medical officer that malaria may assume many forms, that the examination of a blood-film may save life, and that if in doubt he should institute vigorous treatment against malaria. If one has to deal with refugees in the Near East it is wise to regard them as all malarious, and undernourished, in addition to their more evident symptoms.

Control of Anopheles

Malaria control may most profitably be studied in Palestine, where both the Government's Department of Health and also several Jewish organizations have carried out a great deal of excellent work.

Anopheles elutus is mainly to be controlled by the ordinary methods of draining, canalization, and the use of oil or Paris Green. In the larger marshes it might well be most economical to apply the Paris Green from the air. The coastal swamps are generally caused by sand bars which dam up the outflow of the little rivers. Very often the simple method of digging a channel through the sand bar is the best, but the work will have to be performed perhaps twice each summer. A good alternative is to install a windmill to lift the water from the swampy river and run it down to the sea.

Hill-side malaria, due to *Anopheles superpictus* and, to a lesser extent, to *A. sergenti*, may be brought under control by alinement of streams, removing boulders and grass, and also by supplying alternative irrigation channels and keeping one of them dry: also by subsoil drains, under beds of streams. Macdonald's siphons (to give intermittent flow) and Worth's methods of confining the dry-weather flow to small defined channels may be useful. For village and town malaria, due to *Anopheles bifurcatus* in underground cisterns, it is quite unnecessary to keep open the channels by which the rain-water reaches the cistern in summer; when there is no rain for months on end they may be blocked up with mud. Where the water is raised by bucket through an open shaft, it is essential to control the larvae either by Paris Green or oil. Oiling certainly gives an objectionable taste to the water, but the difficulty may be largely overcome by the use of petrol, which leaves no taste or film behind it. Small doses of Paris Green applied to cisterns which are used for drinking purposes are not dangerous: the arsenic does not accumulate in the water.

In the winter *elutus* and *superpictus* should be destroyed in their hibernating places by fly sprays. From the end of January onwards surveys must be carried out for larvae and as soon as they are found the ordinary anti-larval measures must be resumed. In summer the destruction of adult mosquitoes in tents and billets is also a most valuable method of controlling malaria, particularly if troops have to move into areas where drainage measures have not been applied.

The careful siting of hospitals, camps, and huts is very important; all villages should be regarded as danger centres unless the contrary has been proved.

Intestinal Diseases

In the countries of the Levant, enteritis, diarrhoea, dysentery, and enteric fever are without doubt very common. But though one can get some information about the deaths due to these conditions, it is

not easy to obtain any measure of the amount of sickness which they cause except for infant mortality, which is to a great extent due to diarrhoea and enteritis. For technical reasons it is impossible to calculate a rate for these diseases. One can only present the actual number of deaths for certain cities, selecting British or North American cities of about the same size for comparison. In this way such figures as the following may be obtained.

City	*Population (thousands)*	*Deaths, children under 2, diarrhoea and enteritis*		
		1935	*1936*	*1937*
Glasgow	1,120	301	501	401
Beirut	179	301	283	229
Ottawa	143	64	57	84

City	*Enteric death-rate*		
	1935	*1936*	*1937*
Beirut	23·0	20·5	29·9
Chicago	0·5	0·3	0·3
Glasgow	1·3	1·2	0·4

These figures suggest that deaths from diarrhoea and enteritis in children under 2 are often as much as one-hundredfold greater in Syrian cities than in British or North American. A similar conclusion may be drawn from the death-rate for enteric.

It seems to be clear that these conditions are preventable, a conclusion borne out by figures for infant mortality in Palestine. In 1937 the rate was 153 for the country as a whole, 57·2 for the Jews: in 1938 the figures were 112 and 58·5. The Jews have succeeded in halving the infant mortality and bringing it down to such a figure as one would find in a European community.

From the military point of view it is certain that a considerable number of cases of diarrhoea and dysentery would occur in a force in Syria, especially during the warm months. In spite of all precautions this is bound to occur, partly through the carelessness of the civil population. But the incidence in a force could be greatly reduced by attention to familiar measures: the chlorinating or boiling of water; cleanliness in the preparation of food and its protection from flies and dust; avoidance of most types of uncooked food; careful construction and use of latrines; destruction of house-flies and of their breeding-places.

Enteric, both typhoid and paratyphoid, will be almost entirely

eliminated by the general measures outlined above and by protective inoculation.

A mild epidemic jaundice of unknown cause (not due to paratyphoid) has been recorded among troops in Syria and other countries in the Levant.

Typhus Group

In the Mediterranean area two distinct diseases, epidemic (exanthematous) typhus and murine typhus, occur. In murine typhus the infection is normally among rats, and is transmitted by fleas (generally *Xenopsylla cheopis*), either to the rats or occasionally to man. Human cases are therefore sporadic. But in epidemic typhus the micro-organism, *Rickettsia prowazeki*, is transmitted by lice directly from man to man. The disease tends therefore to occur, often as a great epidemic, among those who are infested with lice, particularly body lice, and to attack such people as prisoners, soldiers in the field, refugees, and the victims of famine or earthquake. The louse does not transmit the infection by its bite. The infectious material is the dried excrement of an infected louse, which enters the human body through scratches and cuts (and perhaps through the surface of the eye). The excrement, which remains infectious for many weeks, blows about, so that those who have not actually been bitten by a louse may contract the disease. Thus epidemic typhus might be a major factor in a campaign. Large outbreaks might also occur in locally recruited labour, unless active steps were taken.

In Syria and Palestine it is not always possible to distinguish the two diseases from the data available. There is no doubt at all that louse-carried typhus has been common, and that epidemics of it might occur if conditions favoured it: an epidemic with 300 deaths occurred in north Syria in 1933. There was much typhus in 1933 among tribesmen round Deir ez Zor, Kamichlieh, and also in Transjordan.

Eruptive Fever

The eruptive or exanthematous fever of the Mediterranean has been recorded from Beirut. It is transmitted to man by the dog tick, *Rhipicephalus sanguineus*, which is abundant in summer.

Relapsing Fever

As in other parts of the Mediterranean area, two distinct types of relapsing fever occur. The tick-carried type is properly an infection of

rats and wild rodents. The second type, which is transmitted by lice, occurs only in human beings, and may produce large epidemics: they might have considerable military importance in labour corps or affect large bodies of refugees. Control of the disease is by destruction of lice, especially body lice.

Leishmaniasis

There are large centres of oriental sore (or dermal leishmaniasis) in Aleppo and Mosul, and sporadic cases have been found in many parts of Palestine, Syria, and Iraq. The disease might therefore be acquired in almost any part of the area, and small numbers of cases should be expected. It is carried by dogs and also by sand-flies (*phlebotomus*) which tend to breed in builders' rubbish or in damp new walls. The conditions which would be produced in a town subjected to bombing might therefore lead to a violent outbreak.

Kala azar or visceral leishmaniasis is very rare in Syria and the Lebanon. A League of Nations inquiry in 1934 found it hardly in existence, when dermal leishmaniasis was common.

Diseases of the Eye

Diseases of the lids and conjunctiva are extremely abundant, being the commonest illness treated among out-patients in Syria. When labour was recruited for the Tripoli pipe-line two-fifths of the rejections were for trachoma, in spite of the fact that, owing to the extreme prevalence of the disease, men were only rejected if the trachoma was very acute or complicated.

In the event of large labour corps being employed it would be necessary to provide drugs and attention for large numbers of ophthalmic cases.

Plague

Since the beginning of the present century plague has occurred many times in the ports of Syria and surrounding countries. There is also some risk of its crossing into Syria by land, for there is occasionally plague in inland areas in Iraq and other neighbouring countries: indeed there was plague, with pneumonic cases, in tribesmen in the Jezireh in 1937. The disease must therefore be remembered as one which might suddenly flare up; 12 cases were notified in Syria in 1937, none in 1935 or 1936. Beirut has been free from plague since effective control of rats was introduced in 1934.

The tropical rat flea, *Xenopsylla cheopis*, which acts as a carrier when plague is present, is widely distributed and common in Iraq and Palestine, and presumably in Syria also, so that if plague were introduced it might spread rapidly.

Venereal Diseases

The venereal diseases are doubtless widely distributed. The system of registered prostitutes and brothels was introduced by the French.

In many parts of the Arab world, and particularly in remote country districts, there is a mild form of syphilis generally known as *bejel*. It has been studied in southern Palestine, at Deir ez Zor on the Euphrates, and in a number of other areas. The disease most commonly attacks the soft structures in mouth and pharynx. It is held by some that it is generally not transmitted sexually, but that it is often passed on by close contact, e.g. the use of a common cup or pipe, and the treatment of an ulcer with an old clout removed from another's ulcer.

Parasitic Worms

There are no records of bilharzia disease, except imported cases, in any part of Syria. But having regard to its prevalence in the coastal marshes of Palestine, where some 10 per cent. of the people are infected, the possibility of its occurrence in similar areas in Syria cannot be entirely overlooked, particularly as this is an infection which often escapes notice.

Deficiency Diseases

Except in irrigated areas, which are few, all crops depend on the winter rains, and harvests are over very early. No rain can be expected from about April to November, so that all through the summer and autumn there are few vegetables, though most villages have a good supply of fruit. For these reasons villagers suffer from real privation in a normal year; often enough they are near to starvation, owing to failure of rain, outbreaks of field-mice, or locusts. The nomads are better off for milk than the villagers, but in all other respects even nearer starvation.

It is quite certain that deficiency diseases are common and serious, though not immediately obvious. Probably also some of the extremely common eye diseases are aggravated by deficiency of vitamin A, though actual xerophthalmia is not often recognized.

The military importance of these deficiency diseases might be considerable. *Scurvy* has often occurred in desert warfare in the past, though this is easily avoided (if the risk is recognized) owing to improved transport. Labour corps are likely to be much below par, and proper attention to diet would pay, both in increased efficiency and in making the service popular.

Other Diseases

Fevers

Small numbers of cases of undulant or Malta fever might occur.

Troops recently come from cold countries and spending their first summer in the Mediterranean would almost certainly suffer from epidemics of sand-fly fever, which might perhaps incapacitate whole units for periods of a few weeks. At the peak of an epidemic 30 or even 50 per cent. of new arrivals might be sick or convalescent at the same time. The epidemic season is from May to October inclusive. Sand-flies (*Phlebotomus papatasii* and other species) are very widely distributed and prevalent.

Dengue, transmitted by *Aëdes aegypti*, might also occur, but only in summer. An epidemic of dengue might have considerable military importance, for it might not only incapacitate a large proportion of the troops, but also the civilians, with serious consequences in a port or on a railway.

Small-pox has been greatly reduced, by systematic vaccination, which is well understood and highly valued in Syria as in other Arab countries. It sometimes happens that no case is notified in a year from Syria and surrounding countries.

Leprosy occurs in the Syrian provinces, but not on a heavy scale.

Small numbers of cases of *rabies* may be expected, and considerable numbers of patients who have been bitten by domestic dogs or jackals and wolves. Measures such as the destruction of ownerless dogs have been taken from time to time by the Syrian Government.

Anthrax is rather surprisingly common in the Arab countries. Palestine generally notifies 20 to 30 cases a year, Iraq about 80 to 150.

When the Iraq Petroleum Company recruited thousands of men, the second commonest cause of rejection, after eye diseases, was *hernia*. The point is worth remembering if large numbers of men are required for hard manual work in labour corps.

Personal Precautions

The climate of western Syria is Mediterranean. The summer is hot and rainless, the winter cold and often wet, so that the seasons are in sharp contrast to one another: generally there is also great difference in temperature between day and night. These daily and seasonal differences are more accentuated in the hills than along the coast: the desert climate is no longer Mediterranean, but 'continental', with great extremes of temperature. But though the heat is never so great or trying as on the shores of the Persian Gulf, it is sufficient to make heavy work undesirable except between dawn and 10 a.m. Sentries should not be posted in the sun; clothes should be light and open; there should be plenty of water to drink. The winter is cold, windy, and may be wet, so that men may suffer intensely from the climate in the open desert. In the mountains deep snow may be expected, and a certain number of casualties from the effects of exposure and rheumatism and even frostbite may occur. Full winter clothing, waterproofs, &c., are therefore necessary. As far as possible, houses or huts must be provided before winter; but if men must winter in tents, these may be made more habitable by erecting walls on the windy side. Men should not shelter in caves, because of the risk of relapsing fever (*see* p. 242). In all buildings, especially in the country-side, flies and fleas are a persistent nuisance and source of infection.

The following method of treatment for malaria was found effective by an American mission with no trained doctors: 'The first step is the enema, followed by a warm bath, removal of all superfluous clothing and bed covers, an alcohol rub given after the chill has passed, and an injection of quinine. This is followed a day or two later by a dose of castor oil. Quinine solution is then given regularly for a week or more.'

Pests

Biting insects include domestic mosquitoes. Bed bugs are extremely common in towns and villages, and fleas are troublesome in April and May.

Scorpions may be common. As far as possible one should not leave clothes or boots on the ground at night, for scorpions move about in the dark and take shelter in them. Those who sleep on the ground should shake out blankets and ground-sheets. The sting is extremely painful, but not likely to be very serious.

The bite of the black spider, *Latrodectus 13-guttata*, may produce intense pain and loss of consciousness. The rigid, board-like abdomen has been mistaken for that due to peritonitis.

Mites. There is a small mite (*Pediculoides*, related to the itch mite) which occurs in barley and straw. It attacks the human skin.

Myiasis. There is a large grey fly, *Wohlfahrtia magnifica*, which puts its maggots in wounds and cuts on man or animals. The maggots destroy tissues with great rapidity and spread sepsis. The larvae may readily be destroyed, in the tissues, by free irrigation with chloroform water, or by instilling chloroform dissolved in liquid paraffin.

Snakes. There are several types of viper (*Vipera*, *Echis*, *Cerastes*), but no cobras. The part bitten is likely to be intensely painful, swollen, and discoloured, and a medical man will watch for evidence of gangrene or septic involvement and be prepared to act. In the absence of a medical man, treat the patient by rest, and make him as comfortable as may be. Do not use razors, hot irons, or tight bandages, all of which increase the risk of sepsis.

The Care of the People

Since the establishment of the Syrian and Lebanon republics much has been done to improve the health of the people and to restrict the ravages of the four diseases which may attain epidemic proportions: trachoma, malaria, typhoid, and small-pox. These four, with the heavy rate of infant mortality, are the major problems. The relative importance of malaria and trachoma in the Syrian republic alone is shown by the following figures:

		Malaria	*Trachoma*
Consultations	1937	27,086	286,000
	1938	112,886	80,899

Small-pox has been effectively controlled by vaccination, which is performed by the medical officers of the kazas, to whom all registered births are notified. In 1936 there was only a single known case in the whole country. Vaccination seems to have been welcome to all except a few backward communities: in the Jebel Druse, after an outbreak of pox in 1934, 60,000 out of a population of 66,000 were vaccinated. Trachoma is controlled by the treatment of the children at school, and appears to be yielding ground: the coasts of the Lebanon had been practically cleansed of trachoma by 1937, and even in the Jebel

Druse the rate for boys had dropped from 61·6 per cent. in 1929 to 25·5 per cent. in 1937. In the Syrian republic the number of children under treatment dropped from over 7,000 in 1935 to under 4,000 in 1938.

As for malaria, there is little money available in the Syrian States for grand schemes, such as the often suggested draining of the Ghab, but the local authorities do much in a small way from year to year. A great deal depends upon the intelligence of the village headmen. The gambusia fish, which devour mosquito larvae, have been bred for use in the ubiquitous water-cisterns, eucalyptus trees are planted in bad areas, and prophylactic drugs are distributed widely by the regional doctors and village authorities. These include, in addition to quinine, both quinacrine and rhodinacrine.

Typhoid is mainly controlled by inoculation, which is far from universal, and by the State inspection of foodstuffs and drinks in the markets and by the improvement of sanitary arrangements in the big towns. It was only in 1934 that Latakia city was modernized in this respect.

The high rate of infant mortality is caused by unsuitable feeding and inadequate winter clothing. The ignorance of the mothers is the real trouble. An organization called 'Goutte de Lait' or 'Milk Drop', run by the Franco-Syrian Red Cross, provides clinical assistance and supplies of untainted milk. The Goutte de Lait exists in all provinces, but its activities seem to be limited to the towns, whereas infant mortality is highest in the countryside.

Hospitals and Dispensaries

The towns of Syria and the Lebanon are not inadequately supplied with hospitals according to the standards of the Near East, but medical facilities are rare in the countryside. The State endeavours to maintain a medical officer and a dispensary in the administration centre of each kaza, though in the Jebel Druse these services are supplied by the army doctors. This arrangement is supplemented in the Jebel Druse and Latakia by the creation of mobile units which visit the remoter villages. Ordinarily it would seem that the peasant has no modern medical assistance within easy reach. In the province of Latakia it was proposed in 1938 to substitute municipalities for the nine kazas as the unit of medical organization, but the reform was abandoned for lack of money. It is characteristic that in Latakia province, apart from these nine official dispensaries, there are no chemists' shops outside the city of Latakia.

The hospital accommodation of the State of Syria in 1938 is summarized as follows:

	State	Private
Hospitals	11	14
Beds	800	536
In-patients	10,103	6,226
Out-patients[1]	587,500	138,000

At Damascus there is a general hospital (with about 2,000 in-patients a year), supplemented by a very small infirmary at Kuneitra (about 100 in-patients a year). There is also a venereal diseases hospital, a lunatic asylum (600 beds), a tuberculosis sanatorium, new in 1937, and a 'garden city' for lepers at Duma with about 60 inmates. There are general hospitals at the provincial capitals of Aleppo (about 2,000 in-patients a year), Homs and Hama (400–600 in-patients a year), and Latakia, which has 80 beds supplemented by a hospital with 35 beds at Tartus. There is a small hospital at Suweida for the Jebel Druse with 35 beds and modern X-ray equipment, supplemented by dispensary-infirmaries with a very few beds at Salkhad and Shahba. Deir ez Zor (Euphrates province) has a general hospital (100 in-patients a year) and also an American mission hospital. In the Hauran there is a general hospital at Deraa supplemented by a very small infirmary at Ezraa. The Iraq Petroleum Company maintains small dressing stations in the Hamad with four beds and medical staff at points T2, T3, and T4 along the pipe-line.

In the Lebanon the chief hospitals are at Beirut, where (in addition to three military hospitals) the Hôtel Dieu has 180 beds, X-ray equipment, and a maternity section, the Hôpital du Sacré Cœur 120 beds and an infants' ward of 80 cradles, the American hospital and the Greek Orthodox hospital over 100 beds each. The Hôtel Dieu and the American hospital are teaching hospitals connected with the medical faculty of Beirut University. Tripoli has two small private hospitals. At Bhannes there is a sanatorium for tuberculosis with 400 beds, at an altitude of 3,100 feet.

Serums and Drugs

Vaccines and serums are available in Syria and Lebanon for small-pox, typhoid, rabies, and, at Beirut, for diphtheria. Quinine and quinine preparations, such as rhodinacrine and quinacrine, are stored in large quantities.

[1] Consultations, not number of patients.

Quarantine

The chief quarantine stations are at Beirut, Aleppo, Deir ez Zor, and Damascus, where there are large and well-equipped lazarets. Other posts are at the ports of Latakia, Shakkah, Ruad, Tripoli, Saida (Sidon), and Sur (Tyre), on the land frontier at Tell Kotchek (on the route to Mosul), Abu Kemal, Palmyra and Deraa, and at the civil aerodromes of Beirut, Tripoli, and Damascus. Air travel is a dangerous means of spreading serious diseases, because of the rapidity with which contacts may arrive from centres of infection before symptoms of disease are apparent in them.

Five mobile units have also been created to watch the desert frontiers and for the medical inspection and general assistance of the nomadic tribes.

Pilgrimages

A special problem is created by the pilgrimages to Mecca, though these are no longer, in Syria, predominantly international. Of the 1,900 or 2,000 pilgrims who travel yearly to Mecca from Syria only about 200 are neither Syrians nor Lebanese. The pilgrims collect at Damascus and Beirut, where special arrangements are made for their medical inspection in the lazarets, both on departure and return. The majority travel by sea in a specially equipped ship. Only 200 or 300 now take the land route by Deraa.



PLATE 110. *Threshing*



PLATE 111. *Ox-drawn plough in the Bekaa*



PLATE 112. *Reaper with sickle and bamboo glove*

CHAPTER X

AGRICULTURE

DESPITE a remarkably large urban population the wealth of Syria is based on the countryside and depends either on agriculture or on stock-raising. The acreage under one form or another of agriculture is not at present large. It certainly does not exceed a half of the cultivable area, which is estimated at ten million acres, and it is a bare tenth of the total area of Syria.[1] It is not only the Syrian desert but the mountainous character of the country, combined with the irregularity of climatic conditions, that reduces the area. The cultivated zones of Syria extend as far as a line drawn from Meskeneh on the Euphrates to Karyatein north-east of Damascus, and in the south includes the Jebel Druse.

The area at present cultivated covers between four and five million acres, but the amount of land actually sown in any year is reduced far below this total because the Syrian peasant leaves from a third to a half of his land fallow each year. In addition the area under cultivation expands and contracts with conditions of prosperity. In general the area contracts when prices are high because the peasant prefers less labour and more profit, and only works his maximum under the threat of ruin and starvation.

The prosperity of Syria in the ancient world, when a far larger area was under cultivation than to-day, depended upon agricultural products. In modern times too, between the establishment of peace in Syria and the outbreak of war in 1939, there has been a substantial increase in the area under cultivation, as the following figures for the main crops show:

	1934	*1938*
Acreage cropped . . .	3,345,000	3,900,000

It would seem that a balanced internal economy, relatively independent of external conditions, can still be established on a purely agricultural basis. But the first condition of agriculture in the dry climate of Syria is an adequate water-supply.

[1] Syria in this chapter means the whole mandated area, except when the Syrian State or Government is explicitly mentioned.

Irrigation

Compared to many Mediterranean countries Syria has abundant water-supply from rivers, springs, wells, and rain. But this supply is erratic in distribution. Hence the importance of irrigation. In the remote past a much wider area of Syria was under cultivation than at present because artificial irrigation was better organized. It was the destruction of old irrigation works by Mongol and Arab raiders which led to the depopulation of wide regions in the richer part of the country. The comparatively depressed state of Syrian agriculture to-day, particularly in central and northern Syria, is partly due to the fact that so few of the old works remain. But it should be remembered there are large areas, even in the less well-watered parts, such as the Hauran and Jebel Druse, where irrigation is unnecessary, and that there are also large swampy tracts of land such as the Ghab which need draining rather than irrigation. The estimated maximum of irrigable land is about one and a half million acres, of which a quarter is already under cultivation. Hence any large expansion of yield will also depend upon the introduction of modern methods of dry-farming and the establishment of suitable crops on non-irrigated land.

The smaller sources of water such as the short coastal streams and certain inland streams, of which the Barada is the most notable, are not inadequately harnessed. But the relative neglect of the three great rivers, the Euphrates, the Orontes, and the Litani, is surprising. These are used for local irrigation along their banks, but no attempt is made to carry their water any great distance. On the banks of the Orontes and the Euphrates huge water-wheels are used to lift the water into the irrigation channels (*noria*, *sherrad*; Plates 113, 115–16.) Building is costly and calls for the union of a number of individuals who become partners in the ultimate product; but there is no irrigation on the scale practised in Egypt and Iraq. Work has been begun at Homs to increase the height of the ancient dam of the lake of Homs so as to command a wider area, but the task proceeds slowly. The small rivers in the neighbourhood of Aleppo are also at present allowed to waste most of their water. The recent development of the Jezireh has been made possible by the use of modern pumping machinery to extend the area reached by the waters of the Balikh and Kabhur. But until more is done, particularly to use the waters of the Orontes and Euphrates, the progress or regress of agriculture will continue to depend upon variations in the climate. The following figures (though antiquated) are eloquent:

Season: Winter	*Rainfall at Damascus*	*Year*	*Import of wheat in tons*
1926–7 . . .	335·5 mm.	1927	69,613
1927–8 . . .	164·5 mm.	1928	132,002
1928–9 . . .	281 mm.	1929	95,233

The most elaborate of the ancient systems of irrigation which is still working fully is that in the oasis of Damascus, the Ghuta; permanent

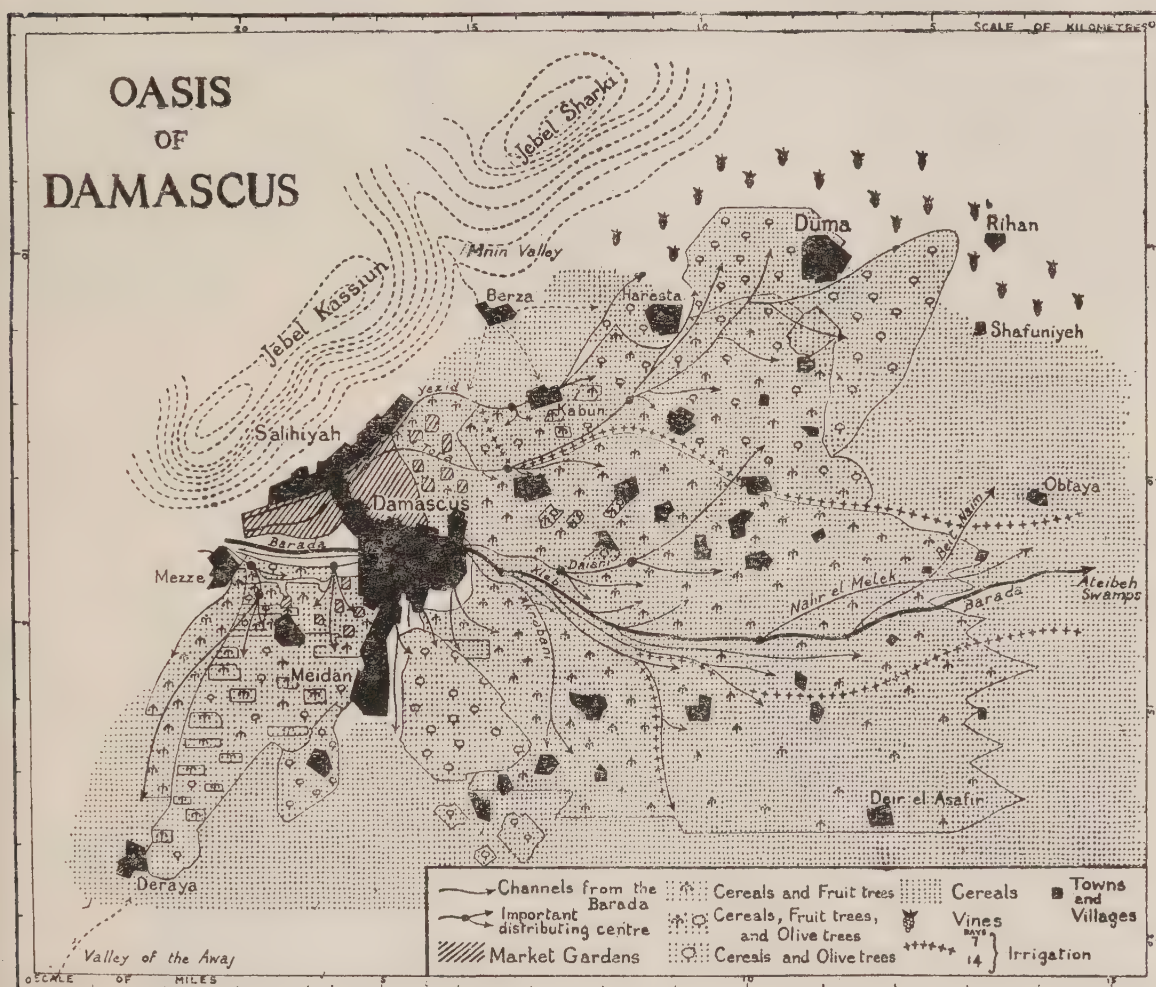


FIG. 49. *Crops and irrigation channels in the Ghuta*

rivers from the Anti-Lebanon and outliers to the north and south-west have been regulated, dammed at appropriate points, and distributed by means of a network of canals through the city and surrounding country (*see* Fig. 49). One of the principal canals bears the name of one of the Omayyad caliphs, Yazid I, but the system is much older than his date and may well go back to prehistoric times: it has been carried out by a succession of rulers and it is not yet complete, for much of the water still escapes into the marshy lakes of Ateibeh and Hijaneh (Plates 27, 114).

In the upland valleys west of Damascus, in the first two Kalamun ranges and in Hermon, the waters higher up have been trained in the same way for the benefit of a series of villages; a succession of regulators enables each village and each plot in each village to receive its share of water through sluices. These are opened every so many days for such and such a period of time, the intervals and the duration of the flow being fixed by tradition (Plate 114). This is known to everyone, but it is the duty of the Mukhtar to see that it is obeyed: guards, who are paid in kind, work under him. Squabbles, which are frequent, are referred to Moslem religious courts, or in the case of Christians to their bishops, for decision.

In the Lebanon arrangements are simpler and generally in the hands of individual landowners. Ancient aqueducts are often re-employed to water small properties, or water is pumped from wells, as in Palestine, to water orange-groves and lemon-groves.

Technique and Education

Factors other than irrigation that affect Syrian agriculture adversely are the primitive technique of the peasants, the lack of manures, and the peculiar conditions of land-ownership and tenancy. The latter is important enough to need a separate discussion (below, p. 264). If the financial background of the peasants were generally more stable it is probable that, despite the technical factors, a relatively high standard of agricultural production, though not a European standard, would be attained throughout the country, such as already exists in Damascus and parts of Lebanon.

The peasants' tools are primitive. The local plough only scratches the soil 3 or 4 inches deep and their harvesting kit is of the simplest—hand-sickles and knives. Threshing and winnowing are done by similarly crude methods, and rotation of crops consists of leaving a half to a third of the land fallow on a biennial or triennial cycle. But the shallow ploughing and the fallow system are complementary, and the simplicity of their tools is partly due to the small scale of agricultural holdings. Even if the peasants had the money to buy modern machinery it is doubtful whether it would always pay for its keep under present conditions. Another discouraging factor is the lack of repair facilities. Machines are commoner in Lebanon and Damascus than elsewhere. The Lebanese republic has a repair shop at Shtaura in the plain of Bekaa, and this has encouraged the use of machines in that area. (Plates 110–12, 117.)

As for manures, natural manuring depends upon the seasonal

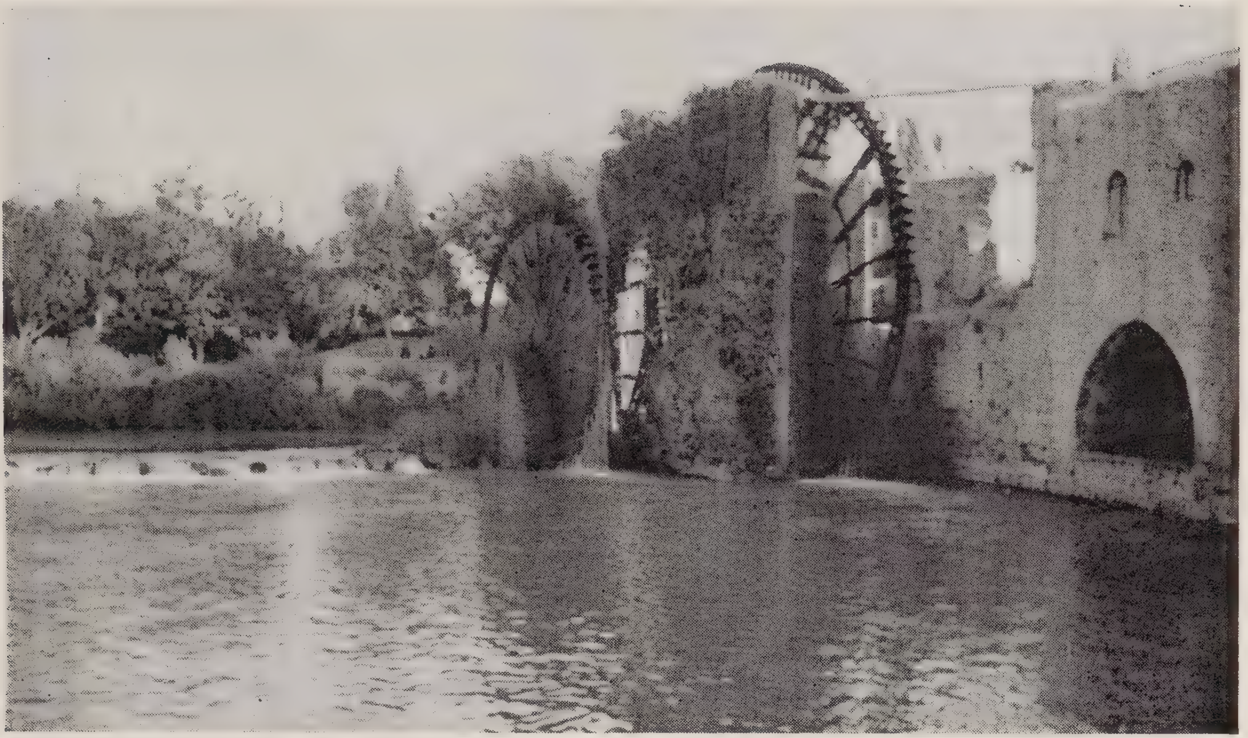


PLATE 113. *Norias at Hama*



PLATE 114. *Irrigation channels and sluices in Damascus oasis*

PLATE 115. *Water hoist on Euphrates*

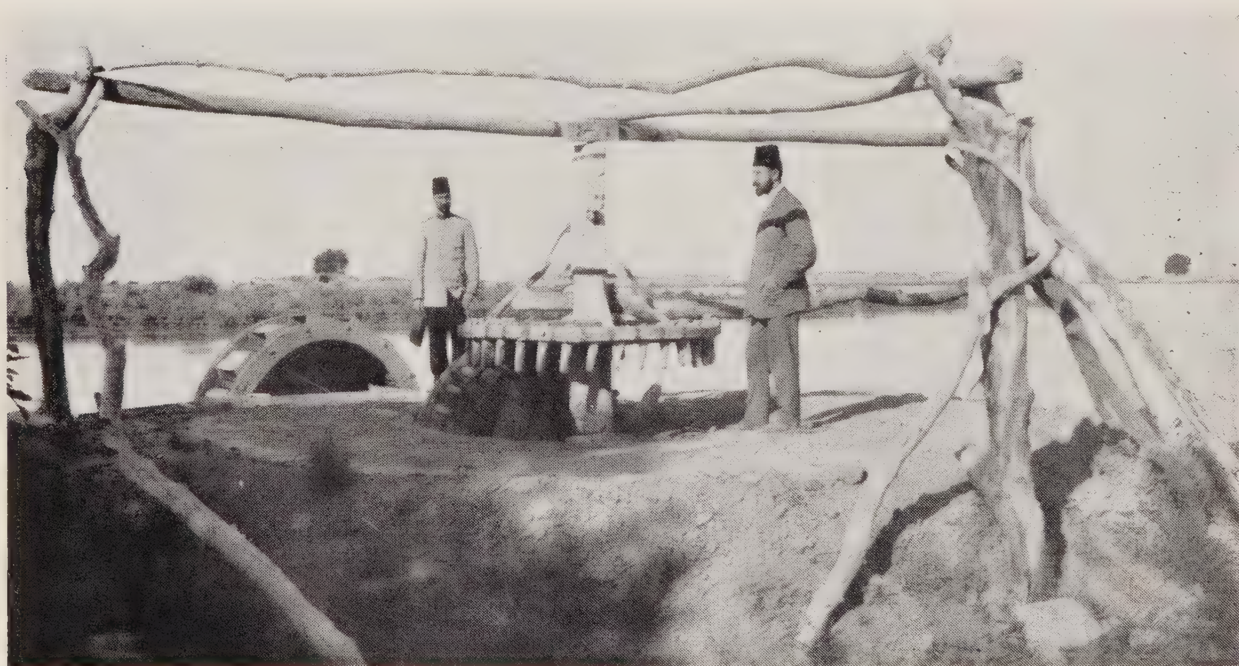


PLATE 116. *Waterwheel or sherrad on Euphrates*

migration of sheep and goats which pasture on the agricultural lands between seasons. But the supply is inadequate except in special pastoral areas such as the plain of the lower Litani, where manure is collected in large quantities and forms an important item of local trade. Soil exhaustion is prevented at present chiefly by the system of fallow.

The use of artificial manures requires both money and knowledge, but agricultural education has not been very successful in Syria. The institutions have been too few to affect the mass of the peasant population, and their graduates have seldom returned to the land, preferring to seek employment in government offices. The illiteracy of the bulk of the rural population hinders the diffusion of simple knowledge by pamphlets and tracts. More useful work has been done by the government research stations and nurseries. The former have considerably helped the cotton-planting interest in Syria, and in Lebanon have experimented usefully with tobacco seeds. The nurseries, of which there are at least three in Lebanon, four in Syria, and one in the Jebel Druse, supply many thousands of seedling trees yearly, either free of charge or at a low price.

The Crops

The characteristic crops of Syria form two groups: those which provide basic foods and are grown wherever conditions forbid the growing of anything more profitable. Cereals and leguminous vegetables are the chief of these. The second group consists of luxury foods and industrial crops which cater for special needs and permit higher profits.

Cereals

Three-quarters of the cultivated land of Syria is under cereals and two-thirds of this is under wheat, which is the chief crop of Syria. The second most important cereal is barley. Wheat and barley, and also oats—a very minor cereal in Syria—are winter crops and are harvested in May. Of wheat there are three varieties: Haurani, a hard grain used for native bread; Salamuni, a soft grain; and Dushani, a soft grain of French origin used mainly for starch or starchy products. Syria could be self-supporting in wheat. The annual consumption is estimated at 380,000 tons, and the annual production varies from 327,344 tons (1934) to 468,000 tons (1937). In 1938 there was a bumper crop of over 667,000 tons. With proper organization Syria

could both feed herself and export regularly, e.g. to Palestine. At present some wheat is exported by speculators, but there is generally an excess of imported over exported wheat.

Barley is used for fodder and exported either as fodder or for the manufacture of whisky, for which its white colour makes it suitable. The small oat-harvest is used for fodder.

Other cereals, spring-sown as summer crops, are sorghum or Indian millet—a drought-resistant plant, the leaves of which are used for fodder and the grain for flour—and maize, which does best when irrigated. A small acreage is under rice; this plant requires very moist conditions.

Vegetables

These are an important part of agricultural production. They may be divided into two groups. On the coast, particularly round the cities, there is an increasing amount of market gardening for the production of fresh vegetables including cucumbers, tomatoes, and egg-plant. In the northern and central plains large quantities of leguminous vegetables and onions are grown for the production of dry peas, beans, and bulbs for storage; the main sorts are chick-peas, lentils, broad beans, and haricot beans. A new introduction is the potato, which is now grown in large quantities, especially in Lebanon. The ubiquitous summer vegetable or fruit grown by every peasant is the water-melon—Jonah's 'gourd'. This grows without irrigation; most of the others need irrigation and careful cultivation.

Fruits

Many Mediterranean fruit-trees flourish in the coastal regions and in favoured inland localities. Most characteristic are vines, apricots, almonds, and figs: plums, peaches, pears, and apples are much more local in distribution. Much of the fruit is eaten fresh, but apricots and grapes are also dried in large quantities. Syria exports raisins and dried apricots, and is the world's third largest producer of the latter. Some wine, molasses, arak-spirit, and vinegar is produced from grapes. Oranges and other citrus fruits and bananas are grown almost entirely in the coastal region of Lebanon, and used to be exported to France. The citrus fruits were not packed well enough to compete seriously with Palestinian products on the world market.

All these soft fruits depend very much upon artificial irrigation. They represent a luxury trade, and taken altogether their total acreage

(about 200,000 acres in 1938, of which about 140,000 were vineyards) is less than the area under olives, which was about 220,000 acres, with an estimated total of over eight million trees.

The olive is the ubiquitous tree of a great part of western Syria except the Hauran and the plains of Homs and Hama. Plantation increased considerably between 1922 and 1930, and the area under olives has trebled since the last war, but the subsequent economic crisis has checked more extensive planting. Three-quarters of the produce is turned into oil, of which the better quality is used for general domestic purposes (replacing other fats), while the poorer qualities go to the manufacture of soap. The remainder of the crop is exported or consumed locally as food. The pomegranate is a common but unimportant tree throughout Syria.

Mulberries may be included among fruit-trees, though their real use in Syria is to provide fresh foliage for silkworms in summer and fodder for sheep in the autumn. Many plantations were uprooted when the silk trade declined (*see* 'Silk'), but since 1937 new plantations have been made and government nurseries were increased to meet the demand for young trees. There are about 50,000 acres under mulberries.

Industrial Crops

Silk. The raising of silk cocoons, once the main industry of the Lebanon and Latakia province, has declined because of the competition with Japanese and artificial silks, and also with better quality cocoons raised in France. There has been a partial revival in recent years, fostered by the government and encouraged by the increase of prices in 1937, as the following figures show:

Production of Metric Tons of Cocoons

	1934	*1935*	*1936*	*1937*	*1938*
Lebanon . . .	825	665	660	800	935
Latakia . . .	215	120	120	252	280

But as late as 1930 the total Syrian production was as high as 3,525 tons (including Alexandretta, but mainly Lebanese).

The cocoons are raised by household labour from eggs which are mostly imported from France. The worm is fed on the leaves of the white mulberry and completes its cocoon in five to six weeks. The cocoons are then dried either in the open air—which takes ten weeks

—or in a few hours by the use of hot air, and the silk thread is spun out. Five pounds of dry cocoons produce one pound of spun silk. One cocoon produces about 2,625 feet of thread.

Cotton. In the medieval period Syria was a great cotton-growing country, but at the beginning of the present century little was being produced. Of late years there has been a revival. The native *baludi* variety is being replaced by Egyptian strains—which need irrigation —and by the American 'Lone Star', which grows without special irrigation. Both sorts have given good results and the culture of cotton is increasing both in Latakia, north Syria (Idlib, Jezireh), and in the Bekaa. The acreage increased from 33,000 acres in 1934 to 92,500 in 1938. The Ghab if properly drained might become a cotton-growing area.

Tobacco. This is the third in importance of the industrial crops. It flourishes especially in the district of Latakia, the original centre of tobacco production in Syria, and in Lebanon, which now surpasses Latakia in output. But the growers have been passing through a phase which is characteristic: they had long clamoured for the abolition of the old State monopoly, but when it was abolished in 1930, free cultivation resulted in heavy over-production and, as the quality degenerated also, they were left with a large unsaleable surplus. A new monopoly was given in 1935 to the Compagnie Libano-Syrienne des Tabacs in consideration of a fixed payment of 22,000,000 francs a year plus a certain percentage of the profits; this seems to be working better. The acreage increased from about 11,000 in 1927 to 21,000 in 1934. By 1938 the new control reduced the plantations to about 14,000 acres. The crop is grown carefully in small fields on mountain slopes by small cultivators.

Other industrial crops of more local importance are sesame—of which the seed is crushed for oil—hemp, used for rope-making, of which the planting varies remarkably from year to year, and castor-oil beans. The latter were encouraged by the French who bought the whole crop, but were never widely planted. A very small amount of sugar-cane is also grown on the coast—1,000 acres at most. Liquorice grows wild in Syria and is collected for export to America.

The following tables give the total acreage for 1938 of different crops and illustrate the remarkable variation of yield due to climatic conditions, and also the tendency of the peasants to switch from crop to crop in the search of easy profit (cf. Sorghum, Hemp, Lentils, Chick-peas).

Cereals

	Increase or decrease of acreage since 1937	*Acreage in 1938*	*Yield 1938 in tons*	*Yield 1937 in tons*
Wheat . .	..	1,345,000	667,300	468,800
Barley . .	..	750,000	380,000	260,000
Oats* . .	−1,700	27,000	10,600	10,900
Sorghum . .	−25,000	260,000	84,600	94,600
Maize . .	..	47,500	27,300	27,200
Rice . .	+	..	2,800	..

Commercial Crops

	Increase or decrease of acreage since 1937	*Acreage in 1938*	*Yield 1938 in tons*	*Yield 1937 in tons*
Cotton:				
Ginned . .	+5,800	92,500	7,500	5,600
Unginned .	..	..	23,900	16,200
Tobacco* .	−1,110	15,300	5,179	5,409
Sesame* . .	+1,750	12,500	4,300	2,800
Hemp* . .	+11,000	16,250	4,800	1,500
Castor-oil beans*	+250	3,000	310	110
Sugar-cane* .	−15	950	1,330	1,260

* These figures are for 1936 and 1937 respectively.

Vegetables

	Increase or decrease of acreage since 1937	*Acreage in 1938*	*Yield 1938 in tons*	*Yield 1937 in tons*
Lentils* . .	+2,500	70,000	28,200	25,800
Chick-peas .	−10,000	62,500	19,300	16,000
Beans . .	+2,500	35,000	19,600	12,500
Potatoes . .	..	30,000	40,800	39,500
Onions* . .	+4,000	11,500	48,500	31,900

* These figures are for 1936 and 1937 respectively.

Fruits

		Yield in tons	
	Acreage	*1938*	*1937*
Citrus fruits . . .	9,500	28,377	26,581
Bananas	4,500	13,000	10,000
Olives:			
Fruit	215,000	89,200	91,800
Oil	..	15,400	16,800
Vines	140,000	200,000	180,000
Apricots	15,000	31,400	31,700
Almonds	10,000	2,300	2,700
Figs	25,000	14,000	20,300

Vines, Acreage by Regions, 1937

Lebanon	27,500
Latakia	15,000
Aleppo	42,500
Damascus	31,000

Pests

Syrian agriculture suffers very seriously from several major pests. The Mandatory created a committee to co-ordinate the efforts of the local governments, the 'Commission Consultative des Epiphyties', as early as 1924, but it is only in recent years that serious efforts have been made to deal with pests. The Lebanese Government seems to be particularly wide-awake to danger of this kind.

Mice are a continuous menace to crops. They are controlled by poison. More serious still are the invasions of locusts. An organization exists for the co-ordination of the efforts of the different Near Eastern countries which suffer from locusts. This is the 'Office International des Renseignements sur les Sauterelles de Damas'. The female locusts may be crushed by rollers when they bury themselves in the soil, or the eggs may be ploughed in, or the 'hoppers' may be swept together and destroyed. The young locusts may also be attacked with insecticides such as sodium arsenate, or sprayed with inflammable solutions.

Cereals, particularly wheat, are attacked by the *sûnah* insect. This enters the wheat grain when tender and destroys the kernel. Huge losses are suffered by it, up to 60 per cent. of the crop of particular areas. The only counter-measure is the substitution of varieties of wheat that mature before the insect is ready to attack. But such varieties do not always prove suitable in other respects. Rust in Syria as elsewhere is a serious trouble; experiments have been made in Lebanon with rust-free varieties.

Olive berries are attacked in May and June by a fly whose worm devours the juice of the berry, and the citrus plantations of the coast suffer from a serious scale-disease due to an insect. The fruit deteriorate in size and become covered with scales. In the Lebanon vigorous counter-measures have been taken, including fumigation and dusting with insecticides. Vines are also attacked by phylloxera, and it has been necessary to replant with immune American varieties on a large scale. The danger to the citrus fruits and the grapes is a threat to two of the most promising sources of wealth in Syria.

The Regions

There are well-defined agricultural regions which correspond to the geographic regions of Syria, but within these general regions local climatic factors vary considerably with altitude and orientation, and often combine with a locally abundant water-supply or heavy summer dews to produce conditions quite different from those of the rest of the region. This renders possible the growing of crops otherwise foreign to the region. Such agricultural 'islands' may be either valleys or small plains. Local variety is very much increased by the mountainous character of Syria; fertility varies enormously within short distances. Again, certain crops tend to be grown universally on a small scale to satisfy local needs in addition to the culture of the main products of the particular regions. Every peasant likes to have his patch of wheat, water-melons, olive-trees or grape vines, in addition to his particular agricultural speciality. Hence agriculture in Syria shows considerable local variety.

The coastal plains of Lebanon and Latakia enjoy a Mediterranean climate and are one of the richest areas of Syria. All the more profitable crops are grown. The Lebanese littoral is the main producer of citrus fruits (8,700 out of 9,300 acres) and bananas, which are cultivated widely in small orchards and gardens round Tyre, Saida, Beirut, and Tripoli. Olive-groves are found near Latakia city, Tripoli, Saida, and Tyre, and there are mulberry plantations at Damur. Market gardening has become important around the bigger towns, particularly Beirut. Other products are tobacco, especially around Batrun, castor-oil plant and sugar-cane (both in small quantities), and cotton. Sesame and oats are grown in the coastal plains of Latakia.

In the Lebanon the characteristic trees are the mulberry and the olive, though the mulberry has yielded ground to other crops with the decline of the silk trade. It does not normally grow here above an altitude of 5,000 feet. The main olive-groves are round Kura and Shweifat. There are notable vineyards in the Zahleh and Shtaura regions; other fruits and nuts are almonds, figs, pears, apples, plums.

Tobacco cultivation, for which Jezzin is a great centre, now exceeds that of Latakia. The terraces of the cirque of Bsharreh are a favoured 'island' devoted to fruits, vegetables, and cereals. The latter are usually a minor catch-crop. The plain of Akkar in the north is a great area for Tripoli onions, and more recently for potatoes, cotton, and maize. Cultivation in the Lebanon ordinarily involves the careful terracing of steep hill-sides. The terraced plots may reach a

maximum size of a thousand square yards, but are normally far smaller (Plate 119).

The Jebel Ansariyeh, which forms the greater part of the province of Latakia, is similar in its agriculture to the Lebanon, but being lower ground, a larger area is under cultivation. Cereals, including oats and sorghum, are grown widely, especially in the fertile plain of Bukeiah. Around Safita and behind Latakia there are many olive-groves. The mulberry is also grown widely, and 15,000 acres were under vines in 1937. Of vegetables, lentils are an important subsidiary crop, but the Ansariyeh is most famous for its tobacco, grown chiefly on the hills behind Latakia. Cotton is grown in the region of Jebeleh. Jebel Koseir is the main source for wild liquorice.

The Bekaa is a wheat-growing area, and maize is grown in places as a summer cereal. Small areas are under mulberries, apricots, plums, apples, and pears. Cotton has been established more recently, with success. The valley of Merj Ayun south of the Bekaa is of special fertility, and in addition to cereals has groves of figs, mulberries, and olives. (Plate 13.)

The Ghab is at present solely pastoral, but would be very suitable for cotton if properly drained. (Plate 12.)

The cultivated regions of Aleppo, Hama, and Homs extend in the north from the Orontes and the Ghab to Meskeneh on the Euphrates, and in the south from the eastern edge of the Ansariyeh hills to Selemiyeh. This is mainly a cereal area, with barley predominating over wheat in the plains of Hama and Homs. A moderate amount of sorghum is planted in the Aleppo province (about 30,000 to 50,000 acres), and also of maize. But other crops have begun to take a large place in the agriculture of this region. The acreage under vines equalled the combined plantations of Lebanon and Latakia (42,500 acres) in 1937. Except around Idlib and Harim, where there are considerable olive-groves, and at Aleppo, which is noted for its walnuts and pistachios, or along the Orontes, trees are rare (Plates 14, 24). The leguminous vegetables are generally important—two-thirds of the Syrian production of lentils comes from this area. Among secondary crops water-melons are widely grown on a small scale to provide fruit, and the greater part of the Syrian onions are raised in the plains of Homs and Hama. Cotton is of increasing importance since the introduction of the new American variety. Tobacco and hemp are grown in the Aleppo district; other industrial crops are sesame and aniseed. The diminishing area devoted to castor-oil beans is in the



PLATE 117. *Stony ploughland in Jaulan*



PLATE 118. *Olive groves of Damascus with cereals under trees*



PLATE 119. *Terraced hillside in Lebanon*



PLATE 120. *Cultivated strip along the Khabur*

Idlib district. The most fertile parts of the central plains are round Maaret en Numaan and Idlib, which has a fairly complex agriculture. Cultivation generally is in open unhedged fields, which are divided either communally into strips, or into privately owned patches of irregular shape.

The valleys of Anti-Lebanon, Hermon, and the Kalamun ridges present wide contrasts of climatic conditions, but water is often locally abundant and Hermon has heavy dews in summer. Hence there are extreme contrasts of cultivation, which is usually dependent on irrigation. Apricots, figs, and walnuts grow in the more favoured valleys. Where conditions are less favourable they are replaced by vines, which yield in turn to cereals on the fringes of the cultivated or irrigated land. Some tobacco is grown. The richer areas of Hermon are in the west open to maritime influences, Rashaya and Hasbaya being noted for vineyards. The Zebdani depression, between Hermon and Anti-Lebanon, has abundant water. It is rich in orchards, which resemble those of the Damascus oasis, and is particularly noted for its apples. The valleys of Anti-Lebanon—masked from the sea by Lebanon—are less well favoured, except for the Halbun valley. Eastwards the Kalamun valleys become more and more desiccated until the third ridge, where agriculture is not possible. Cultivation is generally in small terraced fields which ascend the hill-sides. (Plates 15–16, 19–20.)

The oasis of Damascus with its elaborate system of irrigation canals (Fig. 49) is the most productive area of Syria. Wheat is grown both as a catch crop among trees and more extensively in the less fertile parts; but the main crops are fruit, nuts, and vegetables. This is the chief area of Syria for apricots (12,500 acres). Vineyards are extensive (31,000 acres); olives also are numerous, the Dan variety being famous for the size of its berry. Almonds, apples, pears, and walnuts are much planted, as among vegetables are lentils and chick-peas; Damascus is the chief producer of the latter (58,000 acres). Of industrial crops sesame alone is grown in bulk. Cultivation is generally continuous and dense. (Plates 27, 114, 118.)

The Hauran, with the Jaulan, is the greatest of the wheat-producing areas of Syria. Particularly notable regions are around Kuneitra and Nukra. The development of this area has owed much to the building of the railway, but its fertility is due to the fact that it is open to maritime influences which penetrate through the gap between Hermon and the highlands of Palestine. Unlike the oasis of Damascus, artificial irrigation is of very little importance here. The Yarmuk valley is

noted for its date-palms, which are the only large plantations of dates in Syria.

The Jebel Druse is a similar cereal region with peas and beans as subsidiary crops, but the government is encouraging attempts to establish fruit-trees, vines, and tobacco. So far 1,250 acres have been planted with vines.

The Jezireh has only been put under cultivation since it became an asylum for refugees. Apart from cereals, sesame and cotton are being planted, and also a small area of rice. These crops are being planted likewise in the adjoining regions of the Euphrates littoral. Cultivation is limited to the river valleys, where it depends on irrigation (cf. above, p. 252; Plates 35, 120) except in the rainier area of the Duck's Bill (p. 83), where ploughlands are more extensive.

Landlords and Tenants

Ownership

The ownership and tenure of land in Syria are extremely complicated and obscure; despite the simplifying of the old forms by a new Land Code in 1930. The present condition of the peasants cannot be understood without knowledge of the ways in which land is held. These legal forms have been charged with much of the blame for the present depressed state of the peasant population, but it is equally true that the forms were originally devised to give adequate protection to both landlord and tenant against the uncertainties of the Syrian climate. Syria is largely a land of absentee landlords. Except in the central plains, where communal ownership is common, and in the Lebanon, where the feudal estates have been much split up, few peasants own the land which they till. The owners live in the great parasitic cities which house so unduly large a proportion of the population of central Syria.

The two most important forms of legal ownership are *mulk* and *miri*. Mulk confers absolute right of property, disposition, and use (except where excessive injury or damage to another party is involved). The majority of mulk in Syria consists of the lands within towns and villages on which houses are built, but some State lands were alienated by the Ottoman Government as mulk, mainly in the Lebanon. The bulk of Syrian land is held as miri. By this form the State retains the right of ownership while individuals enjoy *tessaruf*—rights of occupation, use, sale, mortgage, lease, &c. There are now no petty restrictions such as formerly existed upon the use of miri land. Any

form of agriculture may be introduced, and the land may be built upon without special authorization. As far as use goes, miri and mulk are much the same, but miri land is always subject to the condition that the land shall be continuously cultivated. If it remains uncultivated for five successive years without excuse it reverts to the State. It also reverts to the State, as does mulk land, upon failure of legal heirs. The State grants land as miri to individuals through the *tabu* office of the Land Service, which has general charge of State lands.

There are three minor forms of miri ownership: *matrukah-muraffakah* concerns land assigned to the inhabitants of villages or towns for communal purposes, such as threshing-floors, forests, and pastures. *Matrukah-mahmiyah* covers land owned by the State but reserved for the use of the general public (not for any particular community) for such purposes as highways, rivers, public cemeteries. These two forms have apparently been treated as one in the new Code. *Khaliyah-mubahah* is unowned or unreclaimed land. It must be beyond shouting distance of the nearest village. Any person may use such land with the permission of the authorities, but legal ownership remains vested in the State.

Another complication of ownership is caused by the institution known in Syria as *wakf*, and in some Moslem countries as *habus*. Wakf lands are mortmain property, dedicated to some religious or charitable object or family trust. Such trusts are often very complicated and may retain the use of the lands to the founder and his heirs for several generations. Wakf lands are administered by special boards and trustees appointed by religious or secular authority (*see above*, p. 182). This system multiplies the disadvantages of absentee ownership and increases the neglect of property, particularly when after several generations a wakf estate has been much subdivided into minute parcels, which are of little value or interest to the nominal owners.

Communal Lands

These legal forms seldom effect the actual tiller of the soil. It is otherwise with *masha*, a form of communal ownership common in central Syria and, till recently, in Latakia and the Jebel Druse. By this system the village holds an area of miri land, which is usually registered in the name of four or five notables on behalf of the whole population. The land is usually divided into three or four parts and distributed in strips among the male villagers (regardless of age), each of whom receives a strip in each quarter. The division into thirds or

quarters is intended to equalize differences of quality. This distribution is not permanent: the land is redistributed at regular intervals varying from one to three years. Thus the individual villager acquires not the ownership of his strips, but the right to a share in the regular distribution. The object of this system is equality and fairness for all; its weakness is that the peasant is not encouraged to improve his land, since improvement benefits the next holder, not himself. In particular, the system prevents the establishment of cheap rural credit, since the peasants cannot mortgage their land, but only their share (which seldom exists as a written title). The more profitable forms of agriculture which enrich the peasantry, such as the planting of trees and vines, are decidedly discouraged. Hence there has been a movement —both voluntary and officially encouraged—to stabilize the holdings of the peasants. Villages often make this change by themselves to enable the planting of fruit-trees. But stabilization brings its own evils. Families in Syria are large, and after a few generations the individual holdings are very much broken up by the effects of Syrian testamentary law, by which a man's estate is divided among all his sons. In such conditions the land is in fact worked communally by the family, and things are worse than under the ordinary masha system. The degree to which the dismemberment of the village land may be carried is astounding. At the village of Bar Elias, which was far from exceptional, 5,285 acres eventually came to be divided up into 32,643 plots, a number which was reduced by official reorganization to 950 plots.

It has been the general policy of the Lebanese and Syrian Governments and of the local governments of Latakia and the Jebel Druse to secure both the redistribution of the over-subdivided lands and the stabilization of the primitive masha system on a rational basis. In Latakia rotatory redistribution was forbidden in 1925/6, and much progress has been made throughout central Syria and even in the Jebel Druse, where a great part of the communal lands, except forests and pasturages, have been stabilized, and consequently the plantation of fruit-trees, vines, and tobacco has commenced. The general result is to encourage the peasants to improve their soil, to irrigate and to plant the richer crops, and thus break the vicious circle of agricultural poverty.

Tenancy

Outside the communal territories the peasants hold their lands under various conditions of yearly tenancy which usually approximate

to share-cropping or métayage, and are termed *muzaraa*. This is a partnership. The landlord contributes the land and sometimes the seed, the peasant supplies the labour. They share the produce in proportions which vary according to local custom, the relative contributions of either party, and the difficulty of the crop. But normally the landlord receives half after the tithes have been paid to the State. At its best this form affords some protection to the peasant against the vagaries of fortune; he has the backing of his landlord. But at its worst, and most commonly, the landlord's assistance is given only on usurious terms and the share-cropper is discouraged from improving his holding only to benefit his landlord. The gulf between landlord and tenant is widened by the great subdivision of land in Syria. It is difficult even for a willing landowner to supervise the lands of his tenants. The share-cropper is thus independent but exploited. Yet though muzaraa is an annual tenancy terminable at the will of the landlord, the vast majority of the peasants seldom change lands, but renew their leases from generation to generation.

A peculiar form of share-cropping called *mugharasa* is employed for the establishment of new plantations of fruit-trees, vines, and olives. By this the plantation is divided up between landlord and tenant when it reaches maturity, but only the trees are divided; the land remains the property of the owner. The proportion which the peasant retains varies from a quarter to a half, according to local custom.

The ordinary renting or letting of land for a cash rent is rare in Syria, except for areas devoted to market gardening around towns, where the return is certain for both parties, and in the Euphrates region, for the opposite reason that the risk of raiding nomads leads owners to avoid the possibility of total loss involved in métayage.

Hired Labour

Like the payment of money rents, the payment of agricultural labourers in cash is comparatively rare in Syria. Labourers are usually engaged by the year and paid in kind, and may also be clothed and lodged. Sometimes the labourer has a right to a fixed percentage of the crop. This is known as *murabaa*, a system which resembles share-cropping, except that the labourer receives less than the share-cropper. A similar system is used when extra labour is wanted for harvesting.

Financial Insecurity

This survey of the forms of land-tenure reveals the chief weaknesses of the peasant population—their financial insecurity and the remote-

ness of their landlords. This evil is aggravated by other factors. When in need the peasant can only borrow in the towns at usurious rates, because he lacks cover. The escape from indebtedness is made more difficult by the marketing system of Syria. Agricultural commerce is highly speculative in its methods: there are extreme variations of price levels in the local markets from region to region, while the transport-marketers and buyers who come out from the towns seek to make extortionate profits. But if the peasant takes his produce into the towns it usually means that he is selling direct to his creditors.

The total result of these various factors is that the peasantry remain at subsistence level, and seldom have money to spare for the improvement of their land, even where the conditions of tenancy encourage such outlay. Hence the great importance of the establishment of proper agricultural banks to combat usury and provide cheap credit (*see* Chapter XII), particularly for the vast class of peasants who do not own their land. A more difficult measure, outside the masha lands, is the creation of a land-owning peasantry. In the Lebanon the financial crises of the last war (1914–18) caused the break-up of many large estates among the peasantry. From time to time miri land which has lapsed to the State is redistributed; five or six villages in Latakia province acquired ownership of their lands in this way. The most promising field is in the central Syrian provinces of Aleppo, Hama, and Homs, where the State owns huge areas of cultivable land. A beginning was made in 1926 when this land was made available for sale to individuals at reasonable prices, payable in fifteen annual instalments. But the scheme depends upon the possession of surplus funds by the future owners; in bad seasons the peasant proprietors of former State domains are worse off than the share-cropper.

Stock-raising

Apart from the cultivated land an immense proportion of the soil of Syria is either totally barren or, more commonly, only bears vegetation for a short period of the year. This is true not only of the eastern steppes and the Hamad, but of all the regions between the Hamad and the sea. Hence the great importance in Syria of livestock. Where the land is not fertile, peasants are replaced by shepherds who keep sheep and goats and, to a smaller extent, cattle.

Stocks

The characteristic domestic animals are the sheep and the goat. They are bred chiefly for wool, meat, and skins, but also produce the bulk of the people's milk, some of which is made into dairy products: cheese, curds (*leben* or *yaourt*), and clarified butter (*semen* or *ghi*). In 1938 when climatic conditions were favourable the census of sheep and goats showed a notable increase over the past six years.

	1932	*1938*
Sheep . . .	2,320,000	3,079,877
Goats . . .	1,070,000	2,630,998

Cattle are less numerous owing to the general shortage of fodder. Oxen and buffaloes are used for ploughing in the central and northern plains, and smaller numbers are found in the Lebanon, the Bekaa, and Damascus (Plate 111). Pigs are bred by Christian peasants, mainly in Lebanon and Latakia, to meet a small local demand.

Donkeys are the commonest beasts of burden and riding-animals in the villages. The number of donkeys and also of camels declines with the development of mechanical transport. The total of camels decreased between 1934 and 1936 from 241,540 to 172,755. Camels are not limited to the Hamad; their diffusion throughout the Syrian provinces is surprisingly wide. But it is said that even the beduin now raid one another in Fords and Chevrolets. The raising of pure-bred Arab horses for export is well established in Syria. The number of horses increases steadily; the creation of an official stud-book in 1935 and of twelve official breeding-stations has given a fillip to this interest. (Plates 110, 117, 137, 140.)

Disease

Stock is generally poor and disease is rife. This is due to the ignorance and poverty of the peasants and of the beduin. Methods of caring for animals are still primitive; stables for winter shelter are few, far from sanitary, and extremely crowded, with consequent disease. In addition, the irregular supply of fodder, abundant in spring but rare in the cold weather, leads to malnutrition. Hence prolonged droughts in late summer followed by cold winters wreak havoc in bad years, such as 1932 and 1933, but recovery seems to be rapid. In 1937–8 aphthous fever introduced from Turkey wrought considerable damage, but caused more sickness than death. The local

governments have taken remedial steps. A veterinary service has been created both to combat disease and to educate the peasants. The agricultural school of Selemiyeh used to import superior strains of rams and ewes, and to distribute stock among the various centres of the interior. Other preventive measures include the establishment of stations for anti-parasitic baths, and the holding of cattle-shows, with prizes, to encourage the breeding of fine types.

Seasonal Migration

The chief characteristic of stock-raising in Syria is seasonal migration. This is controlled by two factors. The flocks must follow the pasture from region to region, and they must descend from the high hills to warmer parts for the winter. Thus the herdsmen of the Kalamun will keep their flocks around the springs of Anti-Lebanon in summer, descend to the Kalamun ridges about the end of October, and then move down for the winter either east to the Hamad or north to the plains of central Syria. The return is made to the highlands about May (Fig. 50).

These shepherds are not beduin, although the beduin of the Hamad are also shepherds dependent upon seasonal migration. In fact, relations between the shepherds of western Syria and the beduin are often precarious. Those who winter their flocks in the Hamad must first come to an agreement with the local sheikhs, who 'protect' them in return for a capitation fee—the *khua*.

Natural pasture may be found in winter in the Hamad and in summer on the higher and cooler slopes of the mountains. But between seasons, on the journey up and the journey back, the flocks depend for pasture on the cultivated lands. Such pasture is only available after the harvest and before the ploughing. Hence there is a delicate relationship between shepherds and peasants. An arrangement is usually made by which, in return for pasture, the peasant receives the manure and a percentage of the herd. There is often friction when the shepherds drive the flocks on to the fields before the harvest is fully gathered.

In some arable districts the peasants themselves own flocks. Seasonal migration is then arranged either by sending the flocks under the protection of spare members of the family, or by farming them out to beduin in return for a fixed proportion of meat, butter, and wool. In central Syria the rich men of the cities invest in herds which they hire out to beduin in a similar manner.

Pastoral Regions

Seasonal migration is most marked in southern Syria. The herds-

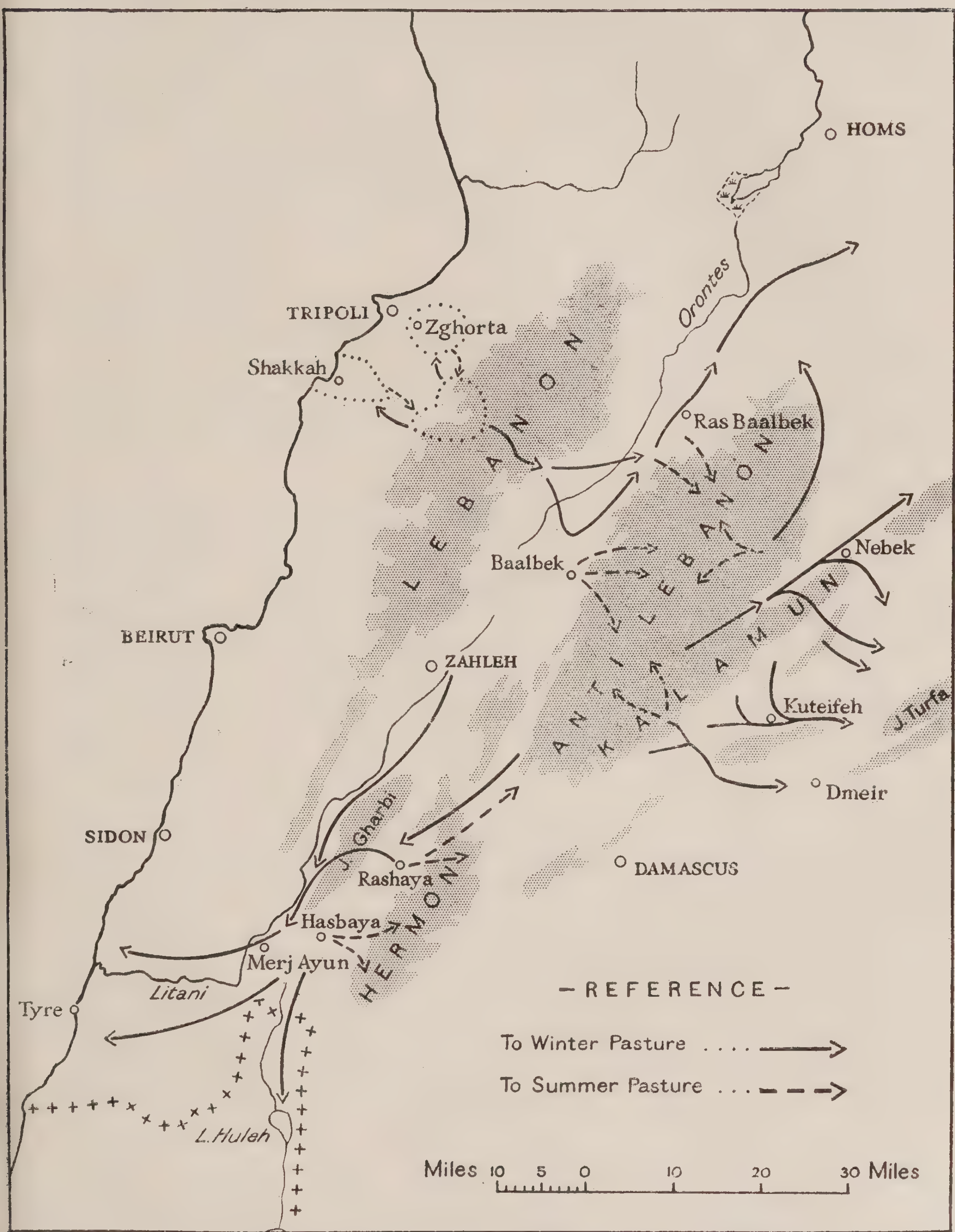


FIG. 50. *Local seasonal migration of flocks in Lebanon and Anti-Lebanon*

men of the Kalamun and Hermon already mentioned move eastward

with their flocks through Karyatein to the Hamad and may reach as far as Jebel Turfa and Palmyra. From Hermon there is also a westward movement in winter particularly to the coastal plain of the lower Litani and to the district round Tyre (Fig. 50). The stock-raising villages of the northern Bekaa take their flocks for the summer pasturage mostly to the Anti-Lebanon, and for the winter to the low hills surrounding the plain of Homs. From the southern Bekaa the winter migration is west to the coastal plain of Saida (Sidon) and Tyre and the Litani valley, or southward to Huleh in Palestine. Cattle are kept in the southern Bekaa, but usually winter indoors, at least in the region of Hasbaya.

From the Lebanon seasonal migration is much more limited still and involves merely a descent to the coastal plains. Cattle are kept in Lebanon, as well as sheep and goats.

In central Syria the most important pastoral district is the Ghab, where herds of buffalo are raised to provide draught animals for the peasants of the northern plains.

There is seasonal migration in winter of the special fat-tailed sheep from the Kurdish mountains down to the plains of the Aleppo district. But the most extensive seasonal migrations are those of the beduin of the Hamad whose whole wealth is in their sheep, goats, and camels. When the spring verdure of the Hamad dries up they move outwards with their flocks in several directions, going north-east to the Euphrates banks of the Jezireh region, Deir ez Zor and Meyadin, and also west to the Aleppo region and to the Orontes south of Hama and Homs. There they may keep their herds on the pastures of those who in their turn send their own flocks to the Hamad for winter. Of recent years the tribes which frequent the Homs–Hama region in summer have been moving as far as Transjordan and Iraq in winter (*see* p. 167).

There is a movement in April from the southern Hamad to the Jebel Druse, but a large proportion of the flocks of these beduin belong to the Druses, who use the beduin simply as their shepherds. This economic servitude has been increased by the effect of disastrous seasons such as that of 1933–4, which decimated the flocks of this area, e.g.:

	1933	*1938*
Sheep and goats .	182,000	115,000
Camels . . .	4,200	1,900

Similar relations exist between the rich folk of Damascus and

the beduin, but the part played by stock-raising in the oasis is of minor importance. Cattle, however, are kept in the Ghuta, which is the only place in Syria where dairy farming is taken seriously. This is made possible by the abundant vegetation due to the irrigation system.

Livestock in 1938

Region	*Cattle*	*Sheep*	*Goats*
Lebanon . . .	47,000	38,000	550,000
South Syria . . .	150,688	1,617,594	996,361
North Syria . . .	77,500	498,000	341,000
Deir ez Zor and Jezireh .	55,350	703,283	336,627
Latakia . . .	143,900	165,000	350,000
Jebel Druse . .	17,500	58,000	57,000
Total . . .	491,938	3,079,877	2,630,988

Region	*Pigs*	*Horses*	*Mules*	*Donkeys*	*Camels*
Lebanon . . .	6,000	8,000	4,000	35,000	3,000
South Syria . .	326	36,180	7,150	40,234	29,379
North Syria . .	1,300	18,500	8,100	42,100	10,000
Deir ez Zor and Jezireh	2	17,250	8,600	31,600	32,414
Latakia . . .	2,000	5,200	1,000	25,000	3,400
Jebel Druse . .	15	4,900	800	8,300	1,975
Total . .	9,643	90,030	29,650	182,234	80,168

Forestry

The much-thinned woodlands of Syria, whose composition has been described in Chapter IV, are the sole source of fuel other than animal dung, and also provide timber for building and other purposes. Except in four districts of Lebanon (Shuf, Meten, Kesrwan, and Kadisha) where the woods are private or village property and are very well regulated, the forests are all State owned and are administered by the local governments. These woodlands suffer from two evils. First, there is inadequate control of the cutting of timber; large quantities are cut illegally, and also licences are granted too readily. Second, natural reafforestation is prevented by the grazing of goats, which devour the young seedlings and plantations. A long period of neglect under Turkish rule was made worse by heavy cutting during the war of 1914–18. To restore the former forests of Syria would call for a very extensive policy of afforestation. So far little

has been done except in Lebanon and to a small extent in the Jebel Druse. The great plantation of pine-trees near Beirut, covering about 25,000 acres, the result of private plantation during the past sixty years, shows what could be done. It was only in 1935 that a general Forest Code for the whole mandated territory was established. Even then this code was put into force with very unequal vigour by the various governments.

Planting, Production, and Protection

The maintenance and extension of the forests depends upon afforestation and the establishment of a forest police. The Lebanese Government showed its interest early. Plans were made to afforest 375,000 acres over a period of fifteen years. Between 1931 and 1935 2,240 acres were replanted; in addition a grant of 190 piastres per hectare (2½ acres) is made to private owners who plant trees. There are at least three government nurseries, at Beirut, Aley, and Mudairij. A Society of Tree-Lovers sought to educate public opinion. But public opinion lagged behind the government, and the rate of reafforestation has declined. There is a small body of forest police numbering twenty-two.

In the Jebel Druse plantation on a small scale has been carried out in suitable years on lands fit neither for agriculture nor pasturage. Sheep are allowed to graze in certain parts of the woodlands, but goats are excluded.

In Latakia province the exploitation of the woodlands is very active and is conducted on rational lines, though an excessive amount of timber is used for the fumigation of Abu Riha tobacco. Of 160,000 acres of woodland and forest it is estimated that 25,000 acres of pine-wood and 45,000 acres of oak forest are workable. From 400 to 700 tons of charcoal are produced annually, and cutting may amount to 85,000 trees of a diameter exceeding 12 inches; illegal cutting has been as high as 17,000 trees. In addition, about 4,000 cubic yards of dead-wood a year are gathered for fuel at a charge of 5 francs per cubic yard. The mountain peasants of the forest areas have a right to a supply of charcoal and timber as fuel for personal needs, and also of timber for building purposes and the manufacture of their tools. These rights are safeguarded by the Forest Code. The forest police consist of three officers and seventeen or eighteen guards. They seem to control illicit cutting better than in the other provinces of Syria, but mysterious fires have broken out in recent years and caused extensive damage.

The government of the State of Syria (excluding Latakia) reformed its Forest Code in 1935, but in fact let matters slide till 1938, when two divisions of forest police were established, one in the north and the other in the south—ten officers and fifty guards in all. There is a scheme to protect the much-thinned forest of Jebel Bilaas, east of Hama, which covers about 69 square miles. The annual production of charcoal is about 1,200 tons, and up to 7,400 tons of timber are cut yearly; both of these figures seem excessive. Since 1930 less than 40 acres have been reafforested in the State of Syria. Experiments in sowing terebinth and almond in the Hauran and Moroccan argan in the Kalamun area have not succeeded.

CHAPTER XI

INDUSTRIES

Mining

THE existence of petroleum in workable quantity has been recently reported. An exploration concession was granted to the Iraq Petroleum Company some time ago, and the presence of petroleum has been located in the Jezireh between the Tigris and Euphrates, but the 'Petroleum Concessions Company', which has been given rights of exploitation, has hardly started work.

Salt is at present the mineral which is most actively exploited. It is mainly extracted from three large marshes. It is estimated that one of these, at Jebbul, some 22 miles east of Aleppo, might produce 30,000 tons a year; a second at Jerud, north-east of Damascus, and a third, 3 miles east of Palmyra, have only been partially worked up to date. Buara, which lies east of Deir ez Zor, is also rich in salt of an excellent quality, but with the present means of transport it would be costly to develop. Syria no doubt can provide all its own needs in salt and more.

Asphalt has been found in rich deposits in the Jebel Ansariyeh and also in the region of Deir ez Zor. The first of these is being worked by the 'Société des Asphaltes et Pétroles de Lattaquié'.

Other minerals exist—iron, chromium, gold, copper, manganese, magnesium, lignite, and bitumen—but not in a quantity or quality which would pay for working in normal times, though iron has been mined in the past at various places in the Lebanon, and lignite was extracted both in the south and the north Lebanon during the 1914–18 war when other mineral fuels were scarce. Chromium has been worked in the neighbourhood of Latakia. Around Hasbaya in the Lebanon there are deposits of pure bitumen, which produce as much as 200 tons a year.

The High Commissioner created a special service to deal with applications for the exploration and exploitation of minerals, but though many permits were granted, the results have not been generally satisfactory.

Industries

Even before 1914 the traditional industries of the country were in a bad way. Most of the raw materials of the textile industries, silk, cotton, and wool, were imported from abroad, and the local



PLATE 121. *Silk weaving at Damascus*



PLATE 122. *Hand loom at Aleppo*



PLATE 123. *Cement factory at Shakkah*

PLATE 124. *Station T 4 on the Tripoli–Kirkuk pipeline*

market only absorbed a fraction of their output. They were suffering from the competition of cheaper foreign goods and from changes in fashion, with the spread of European fashions in clothing over all parts of the Near East. The break up of the Ottoman Empire was an added blow. So long as the old empire was standing Syria was in the centre of a large free market: after 1920 she was surrounded by a ring of small States, all, with the exception of Palestine, protected against her trade by high tariff walls. New currencies interposed further obstacles. The specialized crafts by which the major part of the townsfolk had gained their living became increasingly unprofitable, and other ways and means had to be explored. The story of Syrian industries during the last twenty years is the story of the somewhat faltering steps by which the country endeavoured to meet the new situation.

For the first three or four years there was little progress to report: the old crafts were still struggling on, some of them in insanitary workshops, others as more or less sweated domestic industries; in 1928 a few modern silk-mills and weaving shops, furniture factories, and flour-mills had come into being, but it was still premature to speak of the existence of industry in the European sense of the term. However, the first steps towards a new orientation of industry had been taken. The movement was stimulated by the example of the Jews in Palestine and by the immigration of thousands of skilled Armenian refugees. It was rendered feasible, first, by a customs franchise granted on imports of machinery either for the establishment of new businesses or for extensions and replacements in old concerns, and secondly, by an increasingly heavy scale of import duties specially designed to protect new industries. Most, if not all, of the new industries were directly based on raw materials which already existed in the country, and behind high tariff walls they aimed at monopolizing the local market. It happens that the years

Year	*Number of applications granted for machinery for first establishment*	*Number of applications granted for aggrandizement and replacement in existing establishments*	*Total value of machinery excepted from customs duty, in Syrian pounds*
1928	..	..	250,000
1929	..	..	179,000
1930	50	60	1,500,000
1931	59	84	1,650,000
1932	38	92	1,150,000
1933	38	83	..
Totals	185	319	..

of maximum activity were the years of the great world depression, 1930–3: this is shown in the table on page 277.

The figures in the first column show what a number of new industries was started during the period in question: the movement was no doubt overdone: when one manufacturer succeeded, four or five other people rushed to start a similar industry, oblivious of the fact that there was only room for one or two factories, so that a business which was promising for a time speedily found itself in difficulties. But the larger figure for extensions and replacements in the second column shows that a great many did make good for a time at least, though many may have failed. The average value of the machinery per firm, imported tax free, in the most active years, 1930–2, is only £S 11,000; the factories were mostly quite small affairs. Another table of statistics for 1937 points the same moral. This table gives the total number of men, women, and children employed in 203 old and new industries as 203,927. Of these only 33,149 were employed in the new industries as against 170,778 in the old; the figures for four of the chief towns are as follows:

	Persons employed	
Town	*New industries*	*Old industries*
Beirut	16,753	9,960
Damascus . . .	5,875	25,404
Aleppo	6,665	38,005
Tripoli	354	12,532

A large majority of those engaged in production of some kind are still working on traditional lines, but they are much fewer than they used to be: according to the same table 309,525 workers were employed in the old industries in 1913; the drop between 1913 and 1937 is attributed principally to the decline of the silk trade, the number employed in it having dropped from 179,600 to 65,500.

Industrialization, then, has started in Syria. It has had certain assets in its favour—an enterprising, perhaps a too enterprising, class of employers, a cheap and fairly skilled labour supply, and cheap raw materials in the branches which it has affected: it has been much helped by a protective tariff. It is still on a small scale: the local population for which it caters is small and not wealthy; the country has practically no resources in the way of timber or metals: in the circumstances the start which has been made is not disappointing—it has already produced a reduction in some imports, a reduction, that is, in the adverse trade balance.

To turn now to the different industries.

Textiles

The new industries are represented by cotton ginneries and baling machines, silk and cotton spinning mills, power looms, and knitting machines, but a great deal of hand weaving still survives. Separate figures of production are given for the Lebanon, south Syria (Damascus, &c.), and north Syria (Aleppo, &c.): the figures for 1938 are:

Lebanon	
Knitwear (stockings and socks)	15,750 dozen
Silk material	67,000 m.
Cotton thread	820,000 kg.
Cotton material	666,660 m.
S. Syria (Damascus region)	
Cotton material (6-m. lengths)	450,000
Silk, pure or mixed (6-m. lengths)	860,000
'Aghabani' (6-m. lengths)	30,000
Cotton sheets	35,000
Crêpe de soie	1,200,000 m.
Poplin	1,222,000 m.
Imitation cloth	506,250 m.
Wool and cotton sheets	45,000 m.
Hosiery (jerseys, vests)	962,000 pieces
Ladies' stockings	85,000 dozen
Socks	162,000 dozen
N. Syria (Aleppo region)	
A. Machine looms: crêpe de Chine, georgette, marocain, satin, faille, cloqué, and other fancy material in artificial silk	3,570,000 m.
B. Hand looms: artificial silk, poplin, piqués, fauches, &c.	6,000,000 m. (1937)
'Sayatte' and 'Kotni'	315,000 pieces of 6·50 m.
'Lafahas' and 'Hatatas'	280,000 pieces 1 m. sq.
'Aghabani'	26,000 pieces
Cotton material	55,000 lengths 22–25 m.
Stockings	45,000 dozen.
Socks	60,000 dozen.
Cotton thread	390,000 kg.
Persian knot rugs	1,180 sq. m.

Foodstuffs

Flour-mills were started at a comparatively early date; manufactures of biscuits, macaroni, and vermicelli followed. The fruits of the country have given rise to several industries: the grapes are made into wine of a moderately good quality, vinegar, arak and alcohol; preserved fruits, stuffed dates, and fruit syrups are made. Oil is properly prepared in Latakia; and at Beirut there are two breweries. The latest figures are for 1938.

Lebanon	
Alcohol	
'Bon goût'	58,125 kg.
'Dénaturé'	210,895 ,,
Arak	153,396 ,,
Biscuits	400,000 ,,
Beer	1,558,054 litres
Chocolate	190,000 kg.
Confitures	185,000 ,,
Macaroni, &c.	1,375,000 ,,
S. Syria	
Spirits	475 tons
Flour	48,850 ,,
Macaroni, &c.	275 ,,
N. Syria	
Arak	3,000 hectolitres
Flour	90,000 tons

Other miscellaneous articles which are mentioned in the same report will give an idea of the varied character of the local products:

Cement: the factory at Shakkah turned out 171,000 tons in 1938; a second factory near Damascus produced 80,000 tons and 1,650,000 dozen cement tiles.

Soap: in the Lebanon 2,000 tons, in S. Syria 103, in N. Syria 800.

Matches: nearly 15,000,000 boxes in the Lebanon.

Brushes: 375,000 in the Lebanon.

Perfumes, eau de cologne, and razor blades were also produced in the Lebanon.

Starch: 1,620 tons were made in S. Syria in 1938.

Tanning has always been an important industry: in S. Syria 170,500 hides were tanned in 1938, 274,000 in 1937; in N. Syria the figures for the two years are 127,205 and 106,680 respectively.

Boot and shoe making: 650,000 pairs in N. Syria.

These figures, which have been taken from a single report, do not give a complete picture of the products of the country; about the small crafts which are still alive it would be impossible to collect similar figures of any value. There is, for example, an active furniture industry in Damascus where the carpenters still make tables and stools—generally in American walnut—decorated with marquetry in the old fashion: there are also many coppersmiths and brass-workers. The Mandatory has started an Institute of Native Art in Damascus to save such crafts, and, though their weaving experiments have been abandoned, they have had some success in the glass and leather industries; admittedly less has been possible in Syria than in places like Morocco where the Government has a freer hand.

Power

The rapidity of most of the rivers in Syria suggests that it possesses great potential sources of power. A maximum estimate of the possible amount is 500,000 h.p., a figure which may be exaggerated. At present little of this power has been utilized: the Barada has been harnessed at Tekkiyeh and Dumar to supply Damascus with light and power, and the Orontes to provide for Hama and Homs. The installed power of both thermo-electric and hydro-electric plants was about 40,000 h.p. in 1935 as compared with a total of 3,264 h.p. in 1920; the Ministry of Public Works has estimated that about 60,000 h.p. could be generated on the Nahr Ibrahim or Adonis river. There are several other coastal streams, other places on the Orontes and the Litani, on the upper waters of the Yarmuk, and on the tributaries of the Euphrates where generating plants might be constructed. The Abu Ali (Kadisha) valley and the Nahr es Safa have been utilized to generate 6,000 and 8,000 h.p. respectively.

Summer Stations and Tourists

The summer station is an old institution in Syria, but it is only recently that the provision of summer quarters for visitors has become a promising business, stimulated like the ordinary tourist traffic by a 'Comité du tourisme' which was founded in 1932. For centuries well-to-do people living on the coast have gone to modest quarters in the hills for the hot season; now a number of villages behind Beirut, and others near Tripoli, Latakia, and Damascus, have laid themselves out to attract a rich clientele from Palestine, Egypt, and Iraq: thirty-two villages were recognized officially as summer resorts by the Lebanese Government in 1936. Hotels, cafés, garages, and modern hairdressers spring up where there are good roads to carry visitors: Aley has long been known as the amusement centre of the Lebanon, and in the Damascus area the Grand Hotel at Bludan has lately opened a gambling casino to steal the clients of the Lebanon, where gambling is forbidden. As many of the visitors stay with their families for months, they bring a great deal of money into the country. A winter season has also been started in the Lebanon; in 1938 about 400 visitors went there for ski-ing and other winter sports.

New hotels have been built and old ones modernized to attract ordinary tourists also, but as they pay only flying visits in the spring or autumn, they are less profitable than the summer visitors. Less

profitable still are the pleasure cruises from Europe, though they may bring larger numbers; in 1937 they brought 30,000 visitors to Syria.

The number of tourists and summer visitors in three representative years was as follows:

	1933	*1936*	*1938*
Tourists . . .	9,217	8,697	10,360
Summer visitors .	6,323	8,194	18,607

The Lebanon may well become the Riviera of the eastern Mediterranean.

Fisheries and Merchant Marine

There is little to be said about sea fishing in Syria. The craft and the implements in use are small and rudimentary; profits are too meagre to allow replacements of gear or modernization; the only real gain from fishing is made by the fishmongers. The number of fishermen varies between 1,800 and 2,200. In 1938 they landed 171,600 lb. of fish in the havens of Latakia province and 550,000 lb. in those of the Lebanon.

There is more possibility of profit in sponge fishing from the island of Ruad, where in 1938 a few craft using the simplest of methods produced a catch of 386,000 lb. of good sponges.

There is no Syrian or Lebanese mercantile marine except for the fleets of small sailing-craft, mostly schooners, which frequent the coasts of the eastern Mediterranean. All the steamships calling in Syria are foreign owned. The following table gives the number of sailing-craft visiting Syrian or Lebanese ports in 1938; 95 per cent. of these were owned in Syria or the Lebanon.

Port	*Number*	*Tons*
Sur (Tyre) . . .	200	3,099
Saida (Sidon) . . .	365	12,810
Beirut	1,282	46,822
Juneh	18	533
Shakka	752	33,431
Tripoli	635	23,948
Ruad	392	11,137
Tartus	241	4,360
Baniyas	62	991
Jebeleh	303	1,495
Latakia	259	7,760
Total . . .	4,509	146,386

Labour

Labour Resources

There is no reason to suppose that the labour resources of the country will prove insufficient to meet any calls which are likely to be made on them: official figures would suggest that there is more danger of unemployment. Since 1913 the number engaged in industry has declined by about a third, from 309,500 to 204,000 (*see above*, p. 278), a decline which particularly affected north Syria. Large numbers used to emigrate annually, especially from the Lebanon, in former days, and numbers still cross into Palestine, especially from the Hauran, to look for more remunerative work than they can find at home. This migratory movement is accompanied by a steady drift of the poverty-stricken agricultural community into the towns. A particularly valuable source of industrial man-power consists of the 85,000 Armenians established principally in Beirut, Aleppo, and Damascus.

Labour Conditions

The statistical decline in employment is misleading, because before 1913 industry seldom provided whole-time employment. The small workshops and hand industries of former days are being replaced by modern factories which provide constant employment for their workmen. Working hours are long for the fully employed; they average nine hours a day in the new industries and ten hours in the old. Holidays consist of the religious festivals, one day a week, and in addition about 10 days a year for Moslems, and 15 to 20 for Christians. Average daily wages in francs in December 1937 were as follows:

Town	*New industries*	*Old industries*
Beirut	15·59	12·60
Damascus . . .	10·00	11·40
Aleppo	12·21	8·91
Tripoli	11·25	11·20

It was estimated that to balance the family budget it was necessary for an average household to work for 48 working days a month; any deficit can only be made good by charity, which is organized to this end both in the Christian and Moslem communities.

The Permanent Mandates Commission has from time to time raised the question of labour legislation. A law about child labour has been passed by the Lebanon Parliament, but there are few or no

labour inspectors to see that it is carried out; the traditionalist communities are apathetic towards labour problems, and the conception of a minimum wage hardly exists. There is no legislation corresponding to the employer's liability legislation which has existed for some years in Palestine, though some individual employers compensate their workers in cases of accidents.

Unions

There are no recognized unions in the Lebanon. But in Syria trade unions exist on the European corporative model. Nominally they include both workers and employers, but the employers being swamped by numbers take little part in them. They are as much political as economic organs. An exception is formed by the union of the 10,000 weavers of Aleppo and their 50 employers, which is a native institution with a long history. The weavers have eight representatives called *rayes* under a head rayes or *sheik el rias*, who negotiate disputes between individual workers and employers. If the employer is unreasonable the rayes orders a strike until satisfaction is given. The office of the rias is a seat in a café in the town, and they collect a subscription of one franc a month from each weaver, which is seldom paid regularly.

CHAPTER XII

COMMERCE AND FINANCE

Currency

THE present currency was introduced by the French in 1920 to replace both the Egyptian currency which had been used during the Anglo-French occupation and the Turkish gold currency which had been previously, and is still to some extent, in circulation. The new Syrian pound was divided into 20 francs or 100 piastres and the value of the Syrian franc was linked with that of the French franc: consequently, when, as recently, the French franc stood at 179 to the pound sterling, one pound sterling was worth almost exactly 9 pounds Syrian.

Notes and coins have been put in circulation. The notes are issued in denominations of 1, 5, 10, 25, and 100 pounds Syrian (£S), by the 'Banque de Syrie et du Grand Liban', a French bank which has been authorized to function as the official bank of the two States (*see* p. 292). Silver coins have been issued in denominations of 10, 25, and 50 Syrian piastres (P.S.), by the governments of the State of Syria and the Lebanon republic: minor coins are 1, 2, and 5 piastre pieces, issued also by the States, and half piastres issued by the 'Banque de Syrie et du Grand Liban'.

The amounts of notes in circulation on 31 December in the years 1934–8 were given in the Annual Reports as:

1934 . . .	£S 12,875,000
1935 . . .	£S 15,040,000
1936 . . .	£S 21,165,000
1937 . . .	£S 23,700,000
1938 . . .	£S 30,850,000

The large increase in the note issues during the last three years has been due to the devaluation of the French franc which began in September 1936. The amount of coins in circulation on 31 December 1938 was given as £S 2,942,000.

Turkish gold pounds still in circulation constituted the major part of the monetary stock of Syria, estimated at twenty-one million Turkish pounds in 1918. In the period 1928–36, when the French franc was stable, the Turkish gold pound was quoted at about 550 Syrian piastres (= $5\frac{1}{2}$ £S): in 1938 it rose to 1,150, and its use as a yardstick for prices of commodities became general.

Commerce

An adverse balance is a constant feature of Syrian trade returns, and with the decay of old industries and the undeveloped state of agriculture it could hardly be otherwise. The deficit appears to have been met from various sources. A list of 'invisible imports' published in 1936 includes emigrants' remittances, services in connexion with transit and re-export trade, tourist expenditure, philanthropic funds, expenditures of the mandatory government in Syria, and revenues accruing to Syrians from their property abroad. The remaining adverse balance of trade is met from new foreign investments in Syria, losses to foreigners from bankruptcies of local merchants, and credit extended to Syrian merchants by foreign manufacturers and commercial houses.

A slight change for the better occurred in 1934. Thanks to the new industries which had been established in the country, there was a sensible reduction in the imports of certain foreign articles such as beer, biscuits, bricks, tiles, and cotton goods, and the import of cement almost ceased. In 1936 it was claimed that a state of equilibrium had been practically reached, thanks to the value of the invisible imports. In 1937 a moderate harvest was offset by a good summer season with a substantial increase in the number of summer visitors.

The following tables give the figures for the years 1936–8.

TRADE BALANCE

Tons

Year	*Imports and transit entries*	*Exports and re-exports and transit exits*	*Balance*
1936	564,257	356,964	−207,293
1937	670,724	363,419	−307,305
1938	639,628	460,217	−179,411

Thousands of francs

Year	*Imports and transit entries*	*Exports and re-exports and transit exits*	*Balance*
1936	677,121	437,301	−239,820
1937	1,292,420	749,020	−543,400
1938	1,707,696	892,232	−815,464

Two cautions are necessary: (1) Much of the increased volume of exports shown in 1938 is due to the export of stone and gravel for the construction of the Mosul railway. (2) The apparent increase in values in 1937 and 1938 is largely due to the devaluation of the franc which began in September 1936.

In recent years the chief exports have been natural wool, silk textiles, raw cotton, eggs in the shell, olive oil, millet, lemons, oranges, and cement. The chief commodities passing in transit, apart from the oil carried through the pipe-line from Kirkuk to Tripoli, which is not included in the returns just quoted, were livestock coming from Iraq and Turkey on their way mostly to Palestine; wheat and rye from Iraq for Palestine and Europe, and raw wool, which came mostly from Turkey and was mainly destined for the U.S.A. The chief imports in order of value have been cotton textiles, iron and steel of all kinds, petroleum, woollen textiles, artificial silk yarn, vegetable oils, wood, skins and hides, crystallized sugar, coal and coke, cotton yarns, chemicals, and rice.

Of Syria's customers Palestine has been for a long time the chief; it takes from Syria cement, butter, cheese and eggs, vegetables, fruit, cereals, silk, hosiery, and underwear. The four countries which were next in importance in 1938 were France, Italy, Great Britain, and the U.S.A.: they were followed by Egypt, Germany, Transjordan, Iraq, and Turkey. Syria's immediate neighbours, Palestine, Transjordan, Iraq, and Turkey, took 50 per cent. of the total volume of her exports and 37 per cent. of the value. The commodities re-exported from Syria were woollen textiles, artificial silk textiles, cotton textiles, iron and steel bars, and sawn wood; they went chiefly to Palestine, Iraq, and Transjordan.

In 1938 the five countries from which Syria imported most were Great Britain (woollen textiles, woollen and cotton yarns), France, Japan, the U.S.A., and Rumania. The high place on the list held by Japan is said to be due to the cheapness and good quality of her cotton goods and to energetic salesmanship. Imports from Japan jumped from 17½ million francs in 1927 to 77½ millions in 1934; in 1938, after an agreement signed in Paris in 1936 which was intended to equalize matters, the value of the imports from Japan was 126,378,320 francs, while that of the exports to Japan was 5,543,320. There was natural bitterness in Syrian commercial circles, and the High Commissioner decided to look for an opportune moment at which to discuss a new agreement.

Public Finance

For the last ten years or so the Mandatory has adopted a protectionist policy. This was apparently in accordance with the wishes of the country and has proved on the whole beneficial; it has helped nascent industries and reduced the adverse trade balance. In other respects, especially in the sphere of direct taxation, there have been comparatively few changes. The system of direct taxation in Syria bristles with archaic survivals of Turkish or, more probably, pre-Turkish days when taxes were evidently designed to collect the largest possible revenue in the easiest possible way, however regressive. The taxes in the main, both direct and indirect, bear most heavily upon the poorest classes of the community; no differentiation was made between luxuries and necessities, duties on the latter indeed being preferred because they yielded more. A tax like the road tax falls on all alike irrespective of income. The tithe bears more heavily on villages owned by peasants than on those owned by large landowners: agriculture in general is forced to contribute far more than its share, with deplorable results; the peasant pays from 20 to 35 per cent. of his net income in taxes. The only approximation towards an income tax is an extraordinary tax called the *tamattu*, which was a tax on businesses, trades, professions, and salaries, levied on individuals, partnerships, and corporations alike: it is calculated on three bases, a rough estimate of income, the rent of the business establishment (e.g. the factory or shop, or the clinic of a doctor), and the number of persons employed. No tax, on the other hand, was levied on incomes derived from investments. Some improvements have been introduced by the French; the two taxes which bear most heavily on agriculture, the tithe and the land tax, will fall more equitably over the whole country when the cadastral survey and land settlement now in progress are completed: the tax on buildings is now a tax not on capital value but on rental value.

The system of administration in the mandated countries entailed the presentation of five budgets in the years 1937, 1938 (excluding the Republic of Hatay):

(1) The budget of the 'Services communs' administered by the High Commissioner.

(2)–(5) The budgets of the States and semi-autonomous provinces which were voted by their parliaments or councils and promulgated by the President of the republic concerned. After the signature of the treaties the High Commissioner confined him-

self to registering the decisions of the local authorities, which were financially autonomous.

The revenue and expenditure for 1937 and for 1938 up to 31 December (i.e. before the accounts had been closed) were as follows:

		Revenue	Expenditure
Services communs	1937	212,760,314 francs	208,363,563 francs
,,	1938	240,993,716 ,,	177,174,956 ,,
Syria	1937	164,596,680 ,,	149,347,310 ,,
,,	1938	197,274,900 ,,	185,994,040 ,,
Jebel Druse	1937	4,559,260 ,,	4,559,260 ,,
,,	1938	4,934,240 ,,	4,429,180 ,,
Latakia	1937	24,220,520 ,,	21,205,260 ,,
,,	1938	26,246,200 ,,	23,459,880 ,,
Lebanon	1937	112,789,740 ,,	100,760,620 ,,
,,	1938	97,485,400 ,,	98,975,600 ,,

Of the revenue of the Services communs in 1938, 234,874,241 francs were derived from the Customs. The cost of the defence of the country fell largely on France, but 100,000,000 francs were charged against the Services communs in 1937 for Troupes spéciales du Levant.

In the budgets of the States the figures which are of most general interest are those which concern public order, agriculture, public health, education, and development works. They are as follows:

	1937	*1938 (provision)*
Syria		
Public Order (Justice, Police, Gendarmerie)	50,783,570	69,425,680
Public Health	4,611,820	6,177,420
Agriculture and Economic Services	2,146,700	3,472,700
Education	22,267,220	32,196,100
Public Works	11,548,840	17,019,480
Lebanon		
Public Order (Justice, Police, Gendarmerie)	31,351,720	34,180,060
Public Health	4,480,300	5,427,320
Agriculture and Economic Services	3,792,920	3,769,120
Education	7,894,080	8,761,420
Public Works	19,441,860	21,209,100

Banking

According to the strict Moslem view all lending of money for interest is usury and morally wrong, although a Moslem may pay interest on borrowed money. In 1903 Mohammed Abbu, then Mufti of Egypt, issued a *Fetwa* or canonical interpretation which

distinguished in effect between reasonable interest—which is permissible—and unreasonable interest which is usury and wrong. Despite this, the old view is still held in many quarters, though less strongly than of old. The result is that money is either hoarded, even beyond what is common in agricultural communities, or is invested in houses and land. Either way, the basis of commercial credit is diminished, the development of a sound banking system retarded, and usury in fact flourishes. Also, banking is in the hands almost solely of foreigners and non-Moslem Syrians.

Types of Banks

At the present time the business of banking in Syria is conducted by four types of institutions, which may be classified by economic function: (*a*) the Bank of Issue, (*b*) commercial banks, (*c*) mortgage banks, (*d*) agricultural banks. But banking practice is similar in some respects to that of the continental system, where lack of specialization is the general feature. Not all of the commercial banks restrict their dealings to financing current trade transactions; many of the native banks extend their operations to non-commercial business, such as advances on real estate.

The Bank of Issue performs some of the functions of a central bank (*see below*, p. 292).

Since 1918 there has been a marked development in commercial banking. Both foreign and native institutions have multiplied rapidly. Foreign banks, whose operations were formerly limited to the financing of foreign trade, have increasingly undertaken to finance domestic trade. However, there is still need to extend and improve these banking services. Credits are still comparatively small and the operations of the native commercial banks are not well developed.

Mortgage banking developed only after 1918. Previously there were no private institutions specialized to any degree in mortgage lending.

There are no investment banks in Syria, and the others have not indulged to an appreciable extent in investment fields. The only investment operations which have so far been undertaken fall into three categories: (*a*) establishing and financing public utility and private industrial undertakings, (*b*) financing government institutions, (*c*) selling corporate securities of various sorts.

The first of these has been carried on mainly by the Crédit Foncier d'Algérie et de Tunisie, which has taken a large part in the establish-

ment of public utility industries. Among these are the Électricité d'Alep, with a capital of 36 million francs; the Énergie Électrique de Syrie, with a capital of 20 million francs; the Société des Grands Hôtels du Levant, with a capital of 8 million francs. The Crédit Foncier d'Algérie et de Tunisie has also participated with a group of friendly institutions in the establishment of the Compagnie Libano-Syrienne des Tabacs, which has succeeded the former Régie des Tabacs.

The Banque Misr-Syrie-Liban, a recently established institution, aims, according to its statutes, at financing commercial and industrial enterprises. It is patterned upon the same model as the Banque Misr, which has succeeded in promoting a large number of important industries in Egypt.

For some time the need for establishing a government industrial bank in Damascus to stimulate the creation of new industries and to encourage development of existing ones has been discussed, but nothing has yet been done.

Another category of investment operations, carried on particularly by the Crédit Foncier d'Algérie et de Tunisie, is the sale of foreign and native securities, undertaken without liability on the promoter's account and without being underwritten.

There are no savings banks, but several of the large banks maintain savings departments. Those which have relatively active departments are the Beirut branches of the Banque de Syrie et du Grand Liban, and the Crédit Foncier d'Algérie et de Tunisie. The deposit limit per customer is 500 Syrian pounds in the former and 5,000 Syrian pounds in the latter. Until 1933 interest was paid at 3 per cent. per annum. The investment habit has not taken a deep hold with the people. Savings deposits are very small; those at the Banque de Syrie et du Grand Liban in Beirut amounted in March 1931 to only 200,000 Syrian pounds.

Foreign Banks

A very large part of the commercial banking business is carried on by foreign banks, all of which are either branches or associates of foreign corporate banks, most of them French. Their operations are directed largely to financing imports and exports. Their activity in financing domestic trade has been on the increase, and through their competition business men have been able to secure funds at reasonable rates. Being subsidiaries or branches of strong establishments, they have large lending capacities, for, when

necessary, they can get the funds they need from their parent banks. Accordingly they do not depend upon the bank of issue, which exercises but little control over the volume of credit. This general situation has prevented the organization of a sound Syrian banking system.

Banque de Syrie et du Grand Liban

This institution is the main instrument for French economic control of Syria. It took the place of the old Ottoman bank in 1919 and is the main banking house of the mandated territory. But it is an individual French corporation with its head office in Paris, financed by French capital, and directed by a board of 16 directors, 12 of whom are French and only 4 Syrian. Its issue department, which is modelled on the Bank of England, has by a convention of January 1924 the monopoly of note issues. It is controlled by a 'censorship committee' at Beirut composed of three members appointed by the French Government and the Syrian and Lebanese republics respectively. Otherwise the operations of the bank are in the main unhampered. It is not a central bank limited to dealings with other banks, although much of the work of a central bank is done by it; but it deals with the general public through its thirteen branches in the larger towns and cities, and performs all usual banking operations except land mortgage. Its main privileges, apart from the issue of notes, are that it has the sole custody of public funds, that it has preference when State governments wish to borrow, and that it is the sole agency for the issue of public loans. In return it undertakes without charge the transfer of public funds and the safe keeping of public securities, and pays to the States part of the profit realized from the note reserve. The bank has not, however, a monopolistic control over the supply of commercial credit, but competes with the other banks, which do not keep their cash reserves with it and hence can follow an independent credit policy.

The bank is supposed to aid the economic development of Syria, but its main service has been limited to the publication of economic studies for the French market, which have stimulated new flotations to which its own cash contribution has been small. Thus the bank aids the infiltration of French capital into Syria. At the same time it deflects Syrian savings to French securities; in 1932 half of all its deposits were thus invested and hence withdrawn from the Syrian market.

Native banks

The ordinary needs of the people are met by the native banks and by money-lenders. On the whole, native banks have small capital. They deal in the financing of domestic trade, and only a very few of them finance foreign trade. They usually discount their commercial bills with the foreign banks. With the exception of Banque Misr-Syrie-Liban, an institution partly owned by natives, they are all private or unincorporated banks, being either individual or partnership organizations. In general their function is to carry on ordinary banking operations such as receiving deposits and granting loans, and to deal in bills of exchange. The typical domestic banker depends for his loans mainly on his own resources and the proceeds of discounted paper. Only a small number depend upon deposits and may, therefore, be properly called banks; the remainder are really discounting houses. The domestic banker often deals in both commercial and mortgage loans; the foreign commercial bank does not lend on real estate mortgages.

The native banker has a great advantage over the foreign bank in that he is much better informed about the financial status of his customers and can safely open credit to a wider circle. The foreign banks suffer from the general absence of credit intelligence, due to the secrecy of Syrian business methods. The local banker has sources of information which are not accessible to the foreigner. But the customers generally trust the foreign banker more than the local man; hence a greater volume of deposits flows to the foreign than to the native bankers. Against this, the customer finds the native banker more accessible than the foreigner and more accommodating; in particular, they are more ready to renew overdue loans.

There are certain weaknesses in the native banking structure. Banks have been established with comparatively small capital, with the result that the banker cannot distribute his lending risk. In Beirut alone there are five bankers with capital ranging between four and ten thousand Turkish gold pounds. Second, many bankers combine their business with commercial undertakings. In consequence the banking business may suffer from improper management. Third, several bankers have been in the habit of investing their capital in buildings, relying upon their deposit resources for carrying on banking operations proper. It has also become customary with a number of native banks to lend upon real estate when the demand for funds slackens, or when they can lend at usurious interests. Under such conditions a banker cannot meet an unexpected run on

deposits. In the fourth place, very few native banks publish their accounts, and depositors know nothing about the financial strength of their banks.

Native banking has maintained a decentralized system of many independent banks, each serving the financial requirements of commerce in its own locality. Only one bank possesses branches. There has been no tendency towards amalgamation between native banks, neither between banks in different cities, nor even between banks in the same city. The result has been that control of internal business by foreign banks has of late years increased.

In addition to these domestic bankers, there are hundreds of private money-lenders and money-lending dealers, who lend their own funds at high rates of interest and receive practically no deposits. Most of these lenders are stationed in rural districts.

Inadequacy of Banking Law

An outstanding characteristic of Syrian banking is the complete absence of any commercial banking law or any governmental control or supervision over the operations of commercial banks, foreign and native, except mortgage and land credit banks. Any person or group of persons may engage in commercial banking in the same manner as in ordinary business without being subject to any special regulation. Corporate and partnership banks can be organized at will under company laws, without any requirements whatsoever as to management, operations, loan commitments, reserves, investments, or annual reports. Similarly, individual banks are subject to no special restrictions. Nor is there any provision for audit and inspection to protect depositors and shareholders.

Agricultural Credit

Two factors have advanced the development of agricultural credit. First, the universal land survey with attendant registration of titles has provided a firm basis for credit. Second, the improvement of the law of mortgage and the foundation of regular mortgage banks has created the machinery for releasing credit. These banks are of two kinds, the foreign Land Credit Banks, and the provincial or national Agricultural Banks.

Foreign Land Credit Banks. Three of the foreign banks function effectively as mortgage banks, the Crédit Foncier d'Algérie et de Tunisie, its associate the Crédit Foncier de Syrie, and the Compagnie Algérienne. They offer short-term (1 year), medium (2–9 years),

and long-term (10–30 years) loans at an average of $7\frac{1}{2}$ per cent. Their business is mainly in the cities, where they have stimulated and made possible much of the modern building development, but they have done little to extend rural credit, except that they have helped to finance the state agricultural banks. In the Lebanon, since 1931, the Crédit Foncier d'Algérie and the Compagnie Algérienne have replaced the State Bank by special agreement, and have offered short- and medium-term loans to the peasant population at $6\frac{1}{2}$–7 per cent., of which the State pays 2–3 per cent. But their achievement here has not been impressive; a total of about 100 loans averaging 17,300 francs was made from 1933 to 1935, since when the banks have made no loans under this scheme.

State Agricultural Banks. These banks, of which there is one in each of the autonomous regions, are the successors of the old Syrian branches of the Ottoman Agricultural Bank. The small farmer, whether proprietor or tenant, depends not upon the big foreign bank in Damascus or Beirut but upon the local agency of the State Agricultural Bank. The Lebanese State Bank in 1926 lent all its money to 125 villages of the Bekaa and the kaza of Merj Ayun at 1 per cent.—apparently to reconcile them to their incorporation in the Lebanese State—failed to recover the major part of the loan, and has not operated since 1931.

The State Bank of Syria (excluding Latakia and the Jebel Druse) has been better administered. It has a permanent professional staff with twenty-six agencies, usually one in each kaza capital. Each agency has its own fund, based on the receipt of 4 per cent. of the tithes of its district; in addition the bank is financed by loans from the foreign banks. Since 1938 short-, medium-, or long-term mortgage loans, strictly for agricultural purposes, are made at 4 per cent., repayable in 1–15 annual payments. Loans on a single property are limited to 10 times the annual tithe. In years of disastrous harvest, repayment is simply postponed. There are no extra charges or fees. Where peasants do not own their land, corporate loans are made on similar terms to groups of not less than five persons, and guaranteed by the crop, the sale of which is controlled; the landlord is required to guarantee continuity of tenancy.

These banks were formed to avoid certain weaknesses. Originally the loans of the State Bank had been swallowed up by the large landed proprietors, who often borrowed only to lend the money again to their own tenants at excessive rates. Also, there were various fixed charges (for valuation and travelling expenses) which weighed

heavily on the small borrower: a short term loan of £S100 nominally at 6 or 7 per cent. used to cost the peasant an actual 20 per cent., which was little better than what money-lenders offered. By these recent reforms the Syrian Agricultural Bank seems to be meeting the real needs of the working farmer, who is the basic unit in Syrian economics. In addition to its work as a mortgage bank the Syrian Bank is empowered to take part in the general financing of farming—to make advances on the harvests, to buy agricultural lands for re-distribution, to finance the buying of agricultural implements and raw materials.

The Agricultural Banks of Latakia and the Jebel Druse are run on the same general principles as the Syrian Bank, though it is not clear whether they have adopted the recent changes of procedure. But they are administered by local treasury officials, who have not the professional banker's interest in the improvement of the system. They would seem to be simple agencies for the distribution of the funds made available by the local governments or supplied at the standard rate by the foreign banks. The general weakness of all these banks is the inadequacy of their funds. They receive very few deposits because their public credit is bad, thanks to the cancellation after 1918 of the deposit liabilities of the former Ottoman Agricultural Bank, and do not issue debentures.

CHAPTER XIII

PORTS

THERE are only three ports in Syria which can shelter vessels over 100 tons: Beirut, Tripoli, and Latakia. Of these Beirut is the largest and the best equipped, though its communications inland are notably inferior to those of Tripoli. Until recently Beirut used to handle about 70 per cent. of the total imports and 40 per cent. of the total exports of Syria. Since 1934 these have diminished to roughly 54 per cent. of the imports and 25 per cent. of the exports. The cause of this is mainly the development and specialization of some of the smaller ports. Since the completion of the pipe-line to Iraq Tripoli handles the majority of the petroleum, and Shakkah has become an exporting centre for cement. Again, some importers prefer to avoid the payment of dues by using the neighbouring roadstead of Saida (Sidon) despite the risks involved. The most serious rival to Beirut is Tripoli, with its standard-gauge railway inland to the main Rayak–Aleppo railway, to which Beirut is linked only by a narrow-gauge railway over a difficult mountainous route. A new factor is the building of a standard-gauge railway which will link all the ports of the Syrian coast directly with Palestine and, through Aleppo, with Iraq. Apart from Shakkah and Saida, there are eight small natural harbours or roadsteads, which are frequented by trading schooners.

The following table of imports and exports for 1938 shows the relative importance of the three chief ports:

Port	*Exports in tons*	*Value in thousand francs*	*Imports in tons*	*Value in thousand francs*
Beirut . .	118,422	216,695	348,115	959,657
Tripoli . .	72,521	100,580	95,723	143,994
Latakia . .	19,563	40,868	11,260	17,630

Entries of steamships of over 100 tons in 1938 were:

Port	*Number*	*Tonnage*
Beirut . . .	1,060	2,713,300
Tripoli . . .	603	1,566,500
Latakia . . .	105	127,900
Others . . .	19	23,800

Beirut, Tripoli, and Latakia will be discussed in order of importance; the other small ports will be taken in order from north to south.

BEIRUT. Lat. 33° 54′ N., long. 35° 29′ E. Population (1942) 232,000. Hotels. Hospitals. Banks. Garages. Cinemas. Trams. Libraries. Consulates.

Beirut is built facing north on the massive promontory of Ras Beirut which projects into the sea 3½ miles west of Nahr Beirut (Fig. 51, Plate 125). The harbour consists of artificial basins protected by a mole. South of the harbour, which lies in the centre of the waterfront, rises the hill of S. Dimitri, 260 feet high, with the convent of Notre Dame de Nazareth on its top. West and south-west are red sandhills 260–330 feet high. Farther south the ground rises gradually, covered with olive-groves and gardens which are dominated by the steep wooded hills of Shuf and Meten, 3 or 4 miles to the south-east. The old town stood on low ground close to the sea midway between the Ras and the river, but has almost disappeared: boulevards, new arterial roads, and large blocks of buildings have taken its place. The new town has spread east and west over the hill-sides, and also to the south. The climate is agreeable except in summer, when it is damp and humid and there is a general exodus to hill stations in the Lebanon, particularly to Aley, the summer capital (*see* p. 221).

The major subdivisions of the population in 1932 were: Sunnis 43,222; Shias 6,359; Druses 1,315; Maronites 11,741; Greek Catholic 4,066; Greek Orthodox 13,555; Protestants 2,701; Armenian Orthodox 17,825; Armenian Catholic 4,058; Syrian Orthodox 1,595; Syrian Catholic 2,139; Jews 3,060; foreigners 44,720.

History

Beirut or Berytus was one of the less famous Phoenician cities, but its name occurs in the Tell el Amarna letters which date from the fifteenth century B.C. In the early Roman period it became a Roman 'colony' and the administrative centre of a considerable territory. Later it was the site of a celebrated school of law. It was completely destroyed by an earthquake in A.D. 551 and the school of law moved to Sidon. The rebuilt town was taken by the Moslems in 635, by the Crusaders under Baldwin I in 1110, and by Saladin in 1187: the Hospitallers' Church of S. John the Baptist, which was turned into a mosque in 1291, is one of the few old buildings that have survived. It was a flourishing Levantine port and trading station in the fifteenth



PLATE 125. *Town plan of Beirut. Symbols as Fig. 46*

century, but it first became pre-eminent in the time of the Druse dynast Fakhr ed Din (1595–1634) and his successors. In 1840, at the time of the Napier expedition against Ibrahim Pasha, it was the centre of local resistance to European intervention. In 1887–8 the Turkish provinces were reorganized, and Beirut was made the capital of a province which included the coast to the north as far as Latakia, and reached south far into Palestine, but did not include the districts of the Lebanon or Jerusalem. In 1918 Beirut was occupied by the Allies, and two years later the French made it the capital of the Lebanese Republic, the seat of the High Commissioner for Syria and the Lebanon, and headquarters of the French naval and military forces of the Levant.

The development of Beirut is of recent date: the site has much to commend it, but the mountains behind form a more formidable obstacle to its expansion than the country east of its old rivals, Tripoli, Sidon (Saida), Acre, and Haifa, a disadvantage partially remedied by the road and railway to Damascus.

In 1888 a group of French shareholders in the 'Compagnie Ottomane de la route Beyrouth–Damas' founded, with the help of several banks, a 'Compagnie Ottomane du port, des quais et entrepôts de Beyrouth'; most of the directors were French. Port constructions were started in 1890 and completed in 1895. The harbour works comprised:

(*a*) The northern mole, 875 yards long, and a jetty (the west quay), 383 yards long, enclosing a basin of 57·5 acres, three-fifths of which was in water 26 feet deep.

(*b*) 1,094 yards of wharves.

(*c*) Customs house and police station.

(*d*) Floating quay of 30 tons, a bonded warehouse, and lifting facilities.

During the war of 1914–18 the port and equipment were allowed to fall into disrepair and were partially ruined, but afterwards the restoration of the port was in the hands of a Société Anonyme called the 'Compagnie du Port', which was associated with the railway company. With the development of Haifa, and the frequent congestion of Beirut harbour, improvements were decided upon. In 1934 an extension programme was laid down by the High Commissioner comprising the incorporation of S. André bay, by the prolongation of the northern mole and the building of a new eastern breakwater. The Compagnie du Port likewise proposed to install electric cranes, to

enlarge the west quay from 383 to 400 yards, while 656 feet of new wharves were to be constructed, the entrance deepened, a slipway installed, warehouses, refrigerating plants, and a dry dock built: a free zone was to be established for the transport of merchandise to Iraq and Persia. These works were begun in 1934 and completed in 1939; 40 acres on the south side of S. André bay were reclaimed at this time. A further extension of the north mole eastwards has been planned but has not yet passed beyond preliminary works.

The Town

Commercial activity in Beirut is centred round the port: two roads, the Rue Allenby and Rue Foch, lead from the port to the east–west axis of the city, the Rue Georges Picot, which is prolonged west by the Avenue Bliss, and east by the Avenue Weygand (Plate 125). The busiest section is west of Rue Allenby; in this quarter most of the European shops and commercial buildings are situated. Oriental bazaars such as the Suk Jemil and Suk Tawileh branch off the Avenue Weygand: they are the centre of local Lebanese commerce and sell jewellery, cotton, and silk goods from Aleppo and Damascus, shoes, gold, and silver work. South of the Avenue Weygand is the Place des Canons, the focal point of routes leading into Beirut; around it are public buildings (the Bourse, Police station, and Little Serail), hotels, and cafés. New residential quarters, where modern well-built villas are surrounded by large gardens, stretch out in all directions on the lower slopes of the hills, whence there is a splendid view over city and port. The principal districts are Minet el Hosn, Ras Beirut in the west, Mezraa in the south, Ashrafiyeh and Medawar in the east. In the latter suburb, east of the port, the Armenian refugees settled in a camp on marshy and unhealthy ground: most of them have since been placed elsewhere, and better and more sanitary quarters have been built for those remaining. The Christian quarters are in the eastern part of the city.

Beirut is the capital of French and Lebanese administration. It is also, with two universities (*see* Chapter VII), the intellectual centre of a large area. It is also the residence of the heads of several religious communities—an Apostolic Delegate, two Patriarchs, and three Archbishops; there are churches of every denomination and mosques. There are three military hospitals on the west side of the city. Besides these there are the civil hospitals—the Hôtel-Dieu de France and the Maternity Hospital at the Faculty of Medicine, the American University Hospital, the French Hospital of the Sacred

Heart, and the S. Georges Hospital. Several barracks are found on the outskirts of the city.

Beirut is a modern town with very few of the old, squalid, native buildings left; it has modern public services, and the sanitation, for an eastern town, is good. There is a telephone system, of which the apparatus is an ancient model, and electric light is available. The power station lies in the eastern part of the town on the Tripoli road; it controls the whole electrical system of Beirut as well as that of several of the surrounding hill-stations. *Water-supply* is good. It is obtained from the Nahr el Kelb, and a pumping station about a mile from the mouth of the river, about 7 miles north of Beirut, sends a supply of water to the city. Reservoirs are on S. Dimitri hill. There are three tramway routes in Beirut.

Trade and Industry

As capital of the Lebanon, Beirut is the best-developed port on the coast of Syria in spite of its unfavourable position; hence most of the import and export trade as well as internal trade passes through the city; it ranks with Damascus and Aleppo as a market-centre. The central offices of foreign commercial and banking firms working in Syria are in Beirut, and the leading commission agents and import and export merchants live there.

As has been said earlier, Beirut handles about 54 per cent. of the total imports and 25 per cent. of the exports of all Syria. A large amount of transit trade passes through Beirut to Palestine, Iraq, Turkey, Transjordan, Egypt, and Persia.

Imports for 1938

	Tons	*Value in thousand francs*
Syria . . .	639,628	1,707,696
Beirut . . .	348,115	959,657

Exports for 1938

	Tons	*Value in thousand francs*
Syria . . .	460,217	892,232
Beirut . . .	118,422	216,695

The principal goods imported were: cars, metals, machinery, iron tubes, coal, wood, building material, rubber products; clothing, including silken, woollen, and cotton manufactures; cattle, cereals, coffee, rice, sugar, and other foodstuffs. Beirut is the chief export centre for the olive-oil and silk of Lebanon, the dried or preserved fruits of Damascus, and other Syrian products including raw hides,

raw wool, carpets and mats, esparto grass, liquorice, salt, sponges, tunny-fish, eggs, soap. There is also a transit trade in dates from Iraq and other goods. Various petroleum companies, whose tanks are described below, usually have in stock about 9,000 tons of kerosene and 10,000 tons of benzine, with about 1,000 tons of lubricating oils. The general trade of Beirut was with the neighbouring Levantine countries and in west Europe with Great Britain, France, Germany,

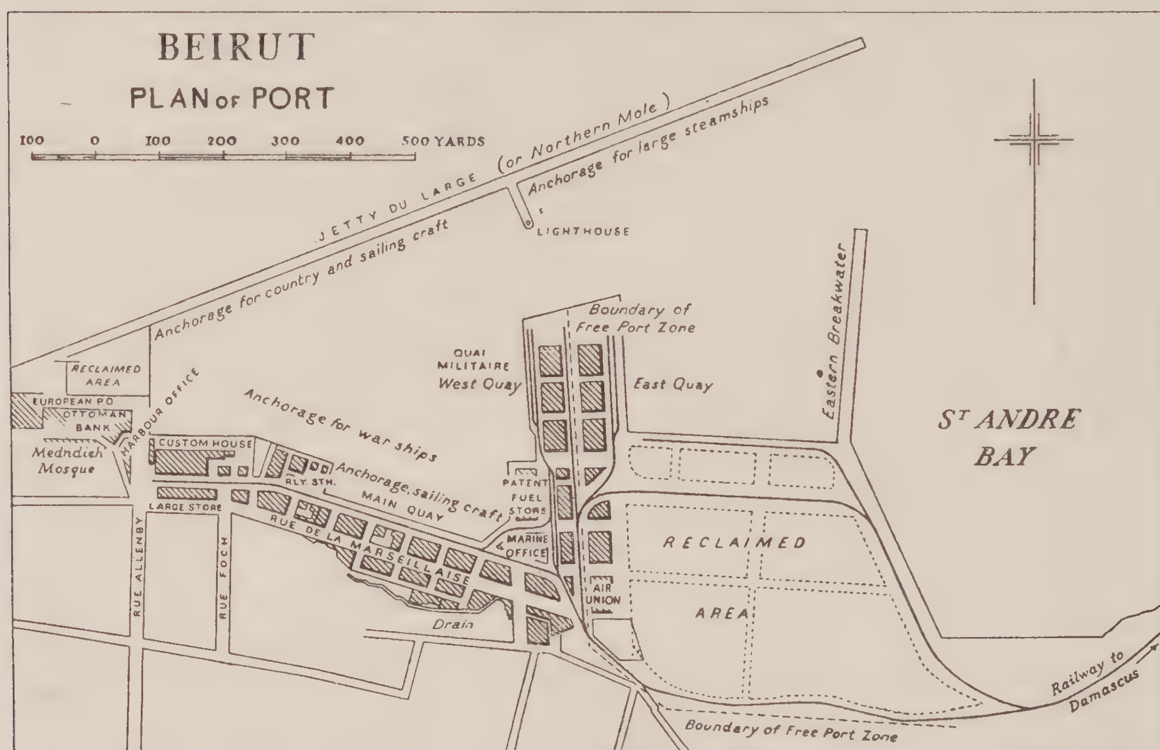


FIG. 51. *The port of Beirut*

Italy, and Belgium, with Rumania in the Balkans, and with the U.S.A. and Japan.

The principal shipping lines calling at Beirut were:

Messageries Maritimes, weekly service.
Khedival Mail, weekly service.
Prince Line Freighters, irregular, about twice a month.
Moss Line Freighters, irregular, about once a month.

The statistics of shipping for 1937–8 are as follows:

Entries 1937:

Vessels over 100 tons 1,030, total tonnage 2,486,422.
Sailing-vessels 1,123, total tonnage 33,905.

Entries 1938:

Vessels over 100 tons 1,060, total tonnage 2,713,381.
Sailing-vessels 1,282, total tonnage 46,822.

There are a few local industries, most of which are quite small. There are tanneries, a tobacco and cigarette factory, soap factory, match factory, an iron-works, and a factory for the manufacture of reinforced cement pipes; silk- and cotton-weaving and shoe-making are mostly domestic industries.

Description of port

The size of Beirut harbour (Fig. 51, Plates 126–7) is about 111 acres of sheltered water in depths varying from 6¾ to 54 feet. The width of the entrance (between the eastern breakwater and the north mole) is 270 yards, with a depth of 50 feet. There are four different anchorages: (1) outside the harbour, exposed to west and north-west winds; (2) outside the harbour entrance but in the lee of the north mole; (3) alongside the quay in the outer basin, with room for 8–12 vessels; (4) in the inner basin which holds about 10 vessels drawing 17–33 feet. It is estimated that three 10,000-ton cruisers, two depot ships, and seven large destroyers could be berthed in the port.

Detail. The port consists of a Northern Mole or Jetée du Large which extends north-east from Ras esh Shamiyeh for a total length of 1,401 yards; 570 yards from its outer end an arm projects at right angles for 65 yards with a lighthouse at the extremity. Seven hundred yards east of the inner end of the north mole is the West Quay, once called the Coaling Wharf, now the Quai Militaire, 150 yards wide, and projecting northwards from Ras Medawar for 400 yards. Between the inner end of the north mole and the Quai Militaire is the old Main Quay. Three hundred yards east of the Quai Militaire, and roughly parallel to it, is the new eastern breakwater, 380 yards long. The two enclose an outer basin of some 65 acres. The southern side of this basin consists of a quay 1,000 feet long built on reclaimed land.

Equipment. Coal is stored at the landward end of the new eastern breakwater, but most of the coal is taken to ships by lighter; they do not coal directly from the coaling wharf.

The port is well equipped with cranes both on the quays and in the warehouses. They are mostly of 1–3 tons capacity. There are also three heavy floating cranes which are towed where necessary. There is normally the usual assortment of harbour craft: launches, tugs, a dredger, lighters, water-craft. Oil fuel is provided by a tank lighter of 280 tons belonging to the Shell Company.

Quays. The total quayage in the port is about 4,500 feet, of which

at least 2,700 feet is in deep water with depths alongside of 25–40 feet. The quays are 4–3 feet above mean sea level.

Quay	*Length in feet*	*Depth in feet*	*Remarks*
North Mole . .	448	54	East of lighthouse arm.
Main Quay . .	700	Below 25	Port offices and railway.
West Quay . .	About 690	25	Quai Militaire. Railway alongside.
East Quay . .	About 663	28–9	Under construction in outer basin. Railway alongside.
New Coal Wharf .	1,000	24–30	South quay of outer basin.
East Breakwater .	1,072	36–40	For oil tankers and oil lighters.

Warehouses. Warehouses, depots, and offices are situated on the Main Quay (inner basin) and along the Quai Militaire. Railway lines run along these; the one on the Quai Militaire branches into two lines along either side of the quay. The warehouses, bonded warehouse, and general stores cover an area of more than 10,000 square yards. There is cold storage with a capacity of over 3,000 cubic yards, which deals annually with over 2,000,000 tons of perishable goods.

Petroleum. Fuel and diesel oil, lubricating oil, and paraffin are stored and supplied by several companies which have small jetties from which pipe-lines are floated out for the reception of incoming cargoes: these are not available for fuelling ships. Tankage capacity is as follows:

	Kerosene Tankage oil cap. in tons	*Benzine Tankage oil cap. in tons*
Shell	5,000	4,500
Socony Vac. Oil Co. .	5,435	5,499
Soc. du Naphte . .	1,151	579
Nat. Petroleum Co. .	1,767	1,329
Syria & Leb. Oil Co. .	992	900
Mourgue d'Algue . .	527	625
French Army . .	648	588

Communications

1. *Railways.* Beirut is served by three lines: (*a*) Beirut to Damascus via Rayak; narrow-gauge, single-track line. Rayak is the junction with

PLATE 126. *Beirut harbour*

PLATE 127. *Beirut harbour, inner basin*



Plate 128. *Tripoli–El Mina during extension of harbour works*



Plate 129. *Latakia harbour*

the standard-gauge line to Aleppo via Homs and Hama. (*b*) Beirut to Maameltein along the coast; a narrow-gauge, single-track railway known as the *Tramways Libanais*. (*c*) Haifa–Beirut–Tripoli, standard-gauge, joins the Tripoli–Homs line at Tripoli.

See Chapter XIV, Lines 2, 4, 5, 8.

2. *Roads.* Beirut is the starting-point of roads leading to many summer stations in the Lebanon—Aley, Beit ed Din, Sofar, &c. It lies on the main coastal road which runs from the Turkish frontier to Ras en Nakurah. Two roads leading across the Lebanon also start from Beirut: (*a*) Through the pass of Dahr el Beidar to Shtaura in the Bekaa, and thence across the Anti-Lebanon to Damascus. (*b*) Through the pass between Jebel Keniseh and Jebel Sannin to Zahleh in the Bekaa. (*See* Fig. 58, p. 333.)

In 1938 there were 1,500 cars and taxis and various modern buses in Beirut, also several large motor-coaches.

3. *Airways.* 'Air France' owns a flying-boat hangar at the shore end of the eastern mole; an all-weather airfield lies about 3 miles south of the town. The normal services are: (i) Marseilles to Beirut via Naples, Corfu, Athens, and Castelorizzo; (ii) Damascus to Baghdad, Calcutta, Rangoon, Bangkok, and Indo-China, with motor-car connexion between Beirut and Damascus.

TRIPOLI. Lat. 34° 27′ N., long. 35° 49′ E. Population (1936) 51,220. Hotels. Barracks (3). Hospitals (5). Banks. Garages. Libraries. Cinemas. Consulates.

Tripoli lies at the mouth of the Nahr Abu Ali at the northern end of the Lebanon (Figs. 52–3). It is the western gateway of the gap which leads to the interior between the Ansariyeh mountains and Mount Lebanon. Tripoli consists of two towns, the port of El Mina and Tripoli proper, which is about 2 miles from the shore; both stand on a delta-like projection from the old shore-line. El Mina faces north-north-east on a low rocky promontory to the west of the Abu Ali. The port consists of a roadstead protected by a breakwater and a number of quays along the shore. Strong north winds in winter, from north-west to north-east, may occasionally render it unsafe, seldom for more than 30 days a season.

Tripoli city is built on two hills which are divided by the river; the quarter on the left bank is called Abu Samra, that on the right bank El Kubbeh. To the east the outlying hill of Jebel Turbul rises to a

height of 2,274 feet; its northern slopes are precipitous, but it drops more gently to the west. Southwards rise the steep ridges of the Lebanon, whose lower slopes are thickly covered with olive-groves. The port is separated from the town by a broad band of gardens and orchards; these are cut by three avenues leading to the railway station. Far the larger number of the inhabitants are Sunni Moslems; according to an old estimate in 1932 there were 28,000 Sunnis, 4,000 Greek Orthodox, and 1,600 Maronites.

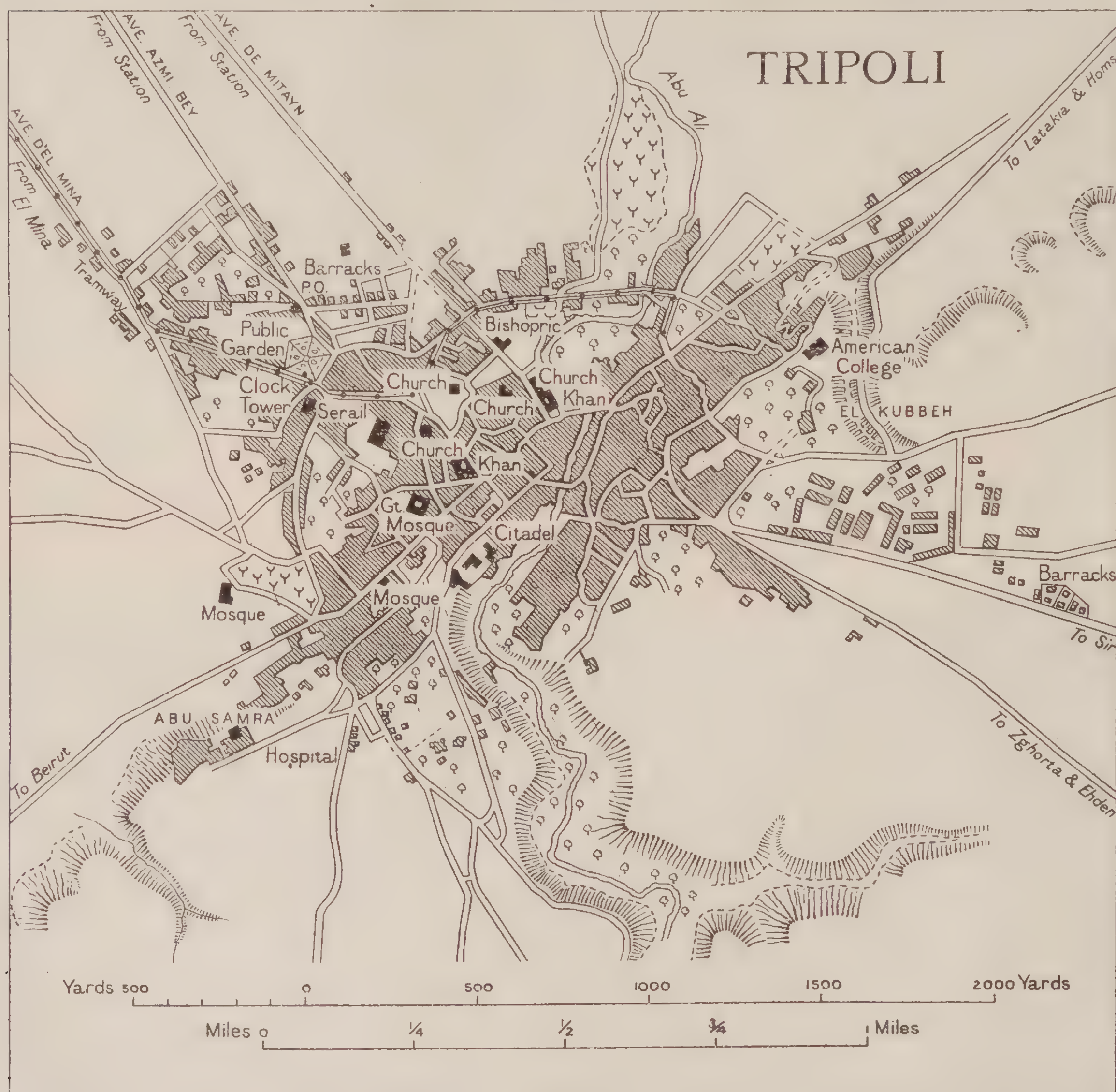


FIG. 52. *The town of Tripoli*

History

Tripoli, or Tarabolus, was so called because it was an amalgamation of three quarters or villages belonging respectively to Tyre, Sidon, and Aradus, but its Phoenician name is unknown. Thanks

to its position at the entrance to the valley between Jebel Ansariyeh and the Lebanon, and to the rich countryside behind it, Tripoli was prosperous in classical times, but most is heard of it in the early Mohammedan period and the Middle Ages.

At the beginning of the sixth century it was seriously damaged by an earthquake, but was rapidly rebuilt. In 635 it was besieged and taken by the Omayyads, who held it until 963, when it passed into the power of the Sultans of Cairo until the middle of the eleventh century. Besides being a centre of trade and industry it was famous for learning: a library containing more than 100,000 Arabic volumes is said to have been destroyed when it was at last taken by the Crusaders. Raymond de Saint Gilles captured it in 1109, ten years after his first attack on the place. It maintained its prosperity and reputation throughout the 180 years of the Frankish period; there were famous glass-works, 4,000 silk looms, camel-hair weaving, and schools belonging to the Nestorians and Jacobites in which medicine and philosophy were taught.

In 1189 Saladin tried in vain to capture Tripoli. Sultan Kalaun of Egypt besieged and conquered the town in 1289, but it continued for more than two centuries to be one of the most flourishing ports in the Levant. Though there are only a few buildings in the town which date from medieval times, the narrow winding alleys and the bazaars in the old quarters give a better idea of a prosperous medieval town than any other on the coast.

In 1909 the 'Société du chemin de fer Damas–Hama et prolongements' received a concession to exploit the 'port of Tripoli'. Before 1914 the harbour consisted of a stone jetty 150 yards long which projected at right angles from the shore 800 yards west of the Lion's Tower; lighters and barges plied between the ships in the roadstead and the quays ashore. The railway line was completed in June 1911. There were other small jetties, most of them wooden, farther west at El Mina. During the war of 1914–18 considerable damage was done and the Tripoli–Homs railway line was taken up.

After 1918 Tripoli harbour and the quays at El Mina were operated by different companies. El Mina is exploited by the 'Société des Travaux Maritimes et Urbains' and the Tripoli quays by the D.H.P. as before. By 1920 repairs to the port and railway had been completed and coasting-vessels could call in at Tripoli. A lighter basin was eventually built at Tripoli and the main jetty at El Mina enlarged (Plate 128). More recently the port has been again enlarged: new warehouses have been built and a seaplane base has been laid out on

the west side of the lighter basin, which has been extended. To the east are established the terminal of the Iraq pipe-line, oil installations, and berthing-places for tankers.

The Town

The old town of Tripoli (Fig. 52) lies on either side of the Nahr Abu Ali and is a maze of winding streets and narrow alleys: the newer buildings stretch out east and west, and more especially in the Abu Samra quarter towards El Mina. Abu Samra is the busiest quarter of the town and contains the government and municipal buildings, the principal hotels, public gardens, the Great Mosque, the bazaars, and the Crusaders' castle. The El Kubbeh quarter contains few public buildings of importance except the American College and the barracks. The latter stand on rising ground, on the lower slopes of Jebel Turbul, which here are thickly covered with olive-groves. The majority of the Moslem population live in Tripoli.

El Mina, besides being a port, is also the Christian residential quarter. The old town, close to the water-front (Fig. 53), consists of a maze of narrow streets and flat-roofed stone houses: the newer houses lie behind. Two of the five local hospitals, the American and Maronite, are in El Mina. There are numerous Christian churches of various denominations, and a mosque near the Serail.

There is a tram-route connecting Tripoli and El Mina.

The *water-supply* is brought by open aqueduct from a large spring at Rashain in the Lebanon, a few miles north of Zghorta; it is fairly good but requires filtering. There are a certain number of wells in the town, but most of these are contaminated. The water of the Nahr Abu Ali below the town is not fit for use, as the sewage of Tripoli goes into it.

Trade

The commerce of Tripoli is very much less than that of Beirut in spite of its better geographical position. Whereas Beirut imports the majority of manufactured articles, Tripoli only handles a small proportion of them; exports are mainly agricultural products and, in recent years, petroleum. The former are the produce of the rich plain of Akkar to the north and of the agricultural country around Homs and the northern Bekaa.

In 1938 Tripoli imported 95,723 tons of merchandise, worth 143,994,000 francs. The principal goods imported were sugar, flour, wood, bitumen and asphalt, coal, iron, jute sacks, silken goods, and machinery. Exports in the same year were 72,521 tons of merchan-

dise, worth 100,580,000 francs. The chief articles were cotton, raw hides; cereals, dried and fresh fruit, vegetables, eggs, oranges, and lemons; vegetable oils and fats, petroleum, and cement.

The importance of Tripoli has increased during the last few years owing to the completion of the northern branch of the pipe-line from the Iraq oilfields. The 'Compagnie Française des Pétroles' is entitled to receive 23¾ per cent. of the crude oil from these fields, and owns large refineries near Marseilles and Le Havre to which the oil was shipped. The maximum capacity of the port is about 4,000,000 tons of oil per year. Since the beginning of the war a small refinery has been installed near the end of the pipe-line. It can treat about 7,500 tons of crude oil a month.

The main shipping lines calling at Tripoli are as follows:

Société Maritime et Coloniale, irregular service, about once a fortnight.

Lloyd Triestino, regular service, once a fortnight.

Prince Line freighters, irregular service, about twice a month.

Most coastal vessels call in at Tripoli.

Traffic Entries

1938: vessels over 100 tons 603, total tonnage 1,566,526.
,, sailing-vessels 635, total tonnage 23,948.

Local modern industries in Tripoli are soap factories, tanneries, spinning and weaving establishments, a cotton ginnery, and an orange-box factory.

Description of Port

The harbour of Tripoli is about 1 square mile in area and 13–21 feet deep. There is room to anchor five ships 300–400 feet long and drawing 16–18 feet, but there is little quayage suitable for berthing large ships (Fig. 53, Plates 44, 128).

Detail. A breakwater, 1,100 yards long, runs east-north-east from a rocky islet to protect the anchorage. At the inner or western end, at El Mina, there is one jetty 375 feet long and 34 feet broad, which projects from the Custom House and is sheltered by two small islets. It can only receive vessels of shallow draught (6 ft.).

About 500 yards west of the Lion's Tower is a lighter basin with depths mostly of 2–8 feet alongside, except at the south-west corner, where it is dredged to 10 feet to accommodate M.L.S. and M.T.B.s. It is formed by a jetty of irregular shape, 1,290 feet long, which projects north-west from the shore towards an L-shaped jetty, 210 feet

long, which projects eastwards from an area of reclaimed land. The west side of the basin is formed by this area, and the entrance between the two jetties is 150 feet wide.

West of the lighter basin is the area of reclaimed land with slipways and hangars for seaplanes.

The oil-port for the pipe-line lies $2\frac{1}{2}$ miles east of the Nahr Abu Ali (*see* 'Warehouses'). There are three loading berths, 2,600 feet apart, with an average depth of 50 feet of water. There are four mooring



FIG. 53. *Tripoli harbour and El Mina town and quays*

buoys at each berth to which ships secure by the stern, anchoring with their own anchors head to wind. At each berth there are two 12-inch pipe-lines between 4,000 and 5,500 feet long. The rate of loading is about 1,000 tons per hour at each berth. It is estimated that seventeen 10,000-ton tankers could be loaded per month, and 4,000,000 tons of oil handled per year.

Equipment. There are light cranes ($1\frac{1}{2}$ tons) on the El Mina jetty and heavier cranes (3–5 tons) on the lighter basin. At present only 60 railway wagons can be worked at a time.

Warehouses. Warehouses and stores lie along the quays between El Mina and the railway station. They cover an area of more than 1,500 square yards. The customs stores can hold 2,500 tons of goods, and other warehouses in or near the port can hold a maximum of

24,000 tons. There are 27 crude oil tanks, each of 12,000 tons capacity, and one for benzine of 500 tons.

Communications

Railway. (1) Tripoli is the terminus of the branch-line standard-gauge railway from Homs which gives through connexion to the north with Aleppo and Turkey and to the south with Rayak. (2) The new standard-gauge coastal line runs south to Beirut. Lines 2, 4.

Roads. Tripoli lies on the coastal road which runs from Latakia to Ras en Nakura. There are two routes inland from Tripoli: (1) with the railway along the Nahr el Kebir valley to Homs; (2) to Bsharreh either by Zghorta or by Amiun, and thence across the Lebanon to Ainata and Baalbek. There are many short roads to hill stations in the Lebanon. R 1, 8, 9. (*See* Fig. 59, p. 343.)

Air. There is a civil airfield at Kleiat, 14 miles north-east of Tripoli, with full facilities. There is a seaplane base in the port which is an excellent berthing place for flying-boats, with full facilities; it is used by 'Air France' and is intended to replace the base at Beirut.

LATAKIA. Lat. 35° 32′ N., long. 35° 47′ E. Population (1942) 33,223. Hotels. Banks. Garages. Hospital.

Latakia stands on Ras Ziyaret, a low-lying promontory 3 miles north-west of the northern Nahr el Kebir (Fig. 54, Plate 129). The harbour consists of an open roadstead and a small basin. There are two distinct quarters, the Upper and the Lower town: the latter is the modern quarter; it has been well laid out with wide streets and stretches along the shore north of the port, while the old quarter, or Upper town, with its narrow twisting streets, lies farther inland on the lower slopes of a long ridge which projects from the north-east. The town population consists of about 18,000 Sunnis, 5,000 Greek Orthodox and other Christians, and—although this is the capital of the Alawi province—under 200 Alawis.

History

The site of Latakia has long been occupied. Formerly called Ramitha, then Mazabdan, the first Greeks called it Leuke Akte; the present name is a corruption of Laodicea, the name given to it by Seleucus I (3rd century B.C.). Thanks to its communications with the interior it became during the Macedonian period (3rd and 2nd centuries B.C.) one of the principal cities in north Syria, and it continued to flourish as a port for many centuries. In the third century A.D.

Zenobia, queen of Palmyra and would-be Roman empress, ruled over Latakia for a short time. During the Byzantine period the town was twice destroyed by earthquakes. It was captured by the Arabs in A.D. 638. The Frankish Crusaders took it in 1097, when Guynemer defeated the Turkish fleet, and called it La Liche. In 1102 under Tancred it became part of the Principality of Antioch and seat of a bishopric. In 1170 another earthquake destroyed the town, and in 1180 Saladin captured it from the Franks, but it was soon retaken and attached to the county of Tripoli. After another earthquake in 1287 the Emir Sahyun took the opportunity of besieging and capturing the ruined town: a few years later the Crusaders' castle was destroyed by Kalaun, Sultan of Egypt. Until the Ottoman conquest in 1516 Latakia remained a dependency of the viceroys of Hama. Few ancient buildings have survived the recurrent earthquakes; the most interesting is a Roman tetrapylon at the crossing of four of the old streets, dating probably from about A.D. 200.

The Town

With the secession of the Hatay Republic to Turkey, Latakia has become the only port north of Tripoli which can receive other than small local craft. In recent years the French authorities have made considerable hygienic improvements besides replanning the old town. Public and government buildings and hotels are in the new town in the west, together with the Christian churches; Latakia has a museum with a fine collection of objects from the excavations at Ras Shamra (Minet el Beida). The mosques are in the old town, together with the barracks, which lie to the north and south.

Water. Latakia has a good supply of water (slightly chalky) which is piped for a distance of 15 miles from Diffeh.

Trade

Latakia serves a rich agricultural area, and owing to its communications with the interior also acts as an outlet to the towns of northern Syria.

In 1938 Latakia imported 11,260 tons of merchandise, worth 17,630,000 francs; the principal commodities were coal, cement, iron, petroleum, and benzine; rice, sugar, jute sacks, manufactured goods, and textiles. In the same year 19,563 tons of merchandise were exported, worth 40,868,000 francs, of which bitumen and asphalt, cereals, raw cotton, flour, dried and fresh fruit, eggs, vegetable oils and fats, vegetables, pottery, tobacco, and tombac were the principal articles of export. The last two are important local products.



FIG. 54. *The town and harbour of Latakia*

Shipping lines visiting Latakia were as follows:

Khedival Mail, service once a week.
Messageries Maritimes, irregular service.
Fabre Line, irregular service.

Traffic Entries

1938: vessels over 100 tons 105, total tonnage 127,950.
,, sailing vessels 259, total tonnage 7,760.

Local industries are a cotton ginnery, an oil factory, potteries, and tanneries; they are all on a small scale.

Description of Port

There is an open roadstead unprotected save from the east, and a small natural basin improved by artificial works (Fig. 54, Plate 129). The entrance to the basin, which is roughly quadrilateral with a rectangular extension at the south-west corner, is 150–300 feet wide and 27 feet deep. There are depths of 17–20 feet in the centre of the basin and 10–12 feet along the quays for most of their length, though at places the depth alongside is only 1–3 feet, while the small rectangular extension has depths of 18 feet. But the basin has been gradually silting up and is probably only available for small craft and coastal steamers. In the roadstead depths of 42 feet are to be found. Large ships usually anchor 1 mile off shore and discharge cargo by lighters.

The equipment is poor, including at most one crane of 2½ tons and 20–25 lighters.

There are about 500 yards of useful quays.

Communications

Railways. None.

Roads. (1) The coastal road from the frontier and Antioch passes through Latakia and continues south through Tripoli and Beirut into Palestine. (2) A good road passes up the Nahr el Kebir valley to Jisr esh Shoghur and Aleppo. (3) A devious road follows the valley of the Nahr el Kish (a tributary of the Nahr el Kebir), turns north through Akko, and joins the previous road before it crosses the Bdama pass. R 1, 14, 15 (Fig. 61, p. 350).

Air. There is a landing-ground 1 mile south-east of Latakia. The surface is heavy after rain, and there are few facilities.

There are several small ports which are used almost exclusively by sailing-vessels. They are described in order from north to south.

JEBELEH. Lat. 35° 22′ N., long. 35° 55′ E. Population (1936) 6,000. Hotels. Garages. Post Office.

Jebeleh is a pleasant village which lies close to the shore about 14 miles south-east of Latakia. It is the capital of a kaza: the inhabitants are mostly Sunnis. The harbour is a small cove (Fig. 21, Plate 42).

Gabala (the ancient name of Jebeleh) was, like Baniyas, an old Phoenician dependency of Aradus; it was later colonized by Greeks. It was destroyed by an earthquake in A.D. 476, and passed through the same vicissitudes as other places on the coast at the hands of Arabs, Crusaders, Saladin, and the Egyptians under Kalaun in 1285. In 1516 Jebeleh came under Ottoman rule. The ancient theatre is said to have been built by Justinian. *Water* is from wells.

The modern town is reported to be growing in importance owing to the cultivation of cotton; it possesses a cotton ginnery.

A basin excavated in the rock by the Phoenicians lies west of the village: it was protected by breakwaters constructed of massive masonry, and in later times restored by the Crusaders. Much of it is now silted up, and it can only be used by small craft.

Traffic Entries

1938: vessels 303, total tonnage 1,495.

Communications

Jebeleh lies $1\frac{1}{2}$ miles from the coastal road between Latakia and Tripoli, to which it is joined by a good road. Motorable tracks lead off the coastal road to villages in Jebel Ansariyeh. R 1.

BANIYAS. Lat. 35° 11′ N., long. 35° 57′ E. Population (1932) 1,286. No hotels. Garages. Post Office.

Baniyas is a village, the capital of a kaza, 25 miles south-south-east of Latakia, at the north end of a volcanic hill on which the castle of Markab stands, once an important signal station. There is a small natural cove. Two-thirds of the inhabitants are Moslem, the rest Christian. (Fig. 21, Plate 71.) *Water* is from springs.

It is on the site of a Phoenician town (*anc.* Balanea, Levcas) which belonged to Aradus; under Roman rule Baniyas enjoyed a certain amount of autonomy and later became the seat of a bishopric. The Crusaders in 1098 called the town Valenia, when it belonged to the

Principality of Antioch. In 1185 Saladin in vain tried to seize Baniyas and Markab, where during the last years of the twelfth century the bishops of Valenia resided. When this fortress fell in 1285 the town was reduced to a village.

The port in the time of the Crusaders was defended by two towers of which there are traces. It is much silted up and can only be used by small craft.

Traffic Entries

1938: sailing-vessels 62, total tonnage 991.

Communications

Baniyas is on the coast road between Latakia and Tripoli. A road runs from the coastal road through Kadmus and Masyaf on to Hama. R 1, 13.

TARTUS. Lat. 34° 54′ N., long. 35° 43′ E. Population (1936) 5,000. Hotels. Banks. Garage. Post Office. Hospital.

Tartus is a straggling town built close to the shore about 28 miles north-north-west of Tripoli; it serves as the centre of a fairly rich agricultural district, producing cereals, tobacco, grapes, olives, and mulberries. The harbour is a small natural cove. Most of the inhabitants are Sunnis, but there is a moderately large Greek Orthodox community. *Water* is from wells. (Fig. 23.)

History

Tartus (*anc.* Antaradus or Constantia; *med.* Tortosa) was originally a dependency of Aradus (Ruad), but became the more important of the two in the Roman period, especially after the establishment of Christianity. Its most treasured possessions were an ikon of the Virgin Mary attributed to S. Luke and an altar to the Virgin said to have been consecrated by S. Peter: these became later the goal of pilgrimages. Tartus was occupied for the first time by the Crusaders in 1099, and again in 1102. In 1123 the building of the cathedral, which is still one of the finest monuments of the Crusaders in Syria, was begun; it stands now in a great walled enclosure—the old episcopal city. Towards the end of the twelfth century the Templars built a castle on Byzantine foundations, north of the episcopal city, to defend the port; this too is still standing. Nur ed Din in 1152, and Saladin in 1188, tried in vain to capture the town, but in 1291 it finally capitulated to Sultan Kalaun. Tartus also contains a small museum with Phoenician antiquities which were found at Amrit

(*anc.* Marathus), another dependency of Aradus lying 7 miles south of Tartus.

Description of Port

The port of Tartus lies half a mile north of the town at El Mina. It consists of a small oval cove or rocky basin with its entrance facing north. In recent years it has greatly silted up and the water is only 2–3 feet deep. Small fishing-boats and sponging-craft shelter in the harbour, which is the port for the island of Ruad, 2 miles off shore.

Traffic Entries

1938: sailing-vessels 241, tonnage 4,360.

Communications

Tartus lies on the main coast road between Latakia and Tripoli. One and a quarter miles south of the town a road forks off to Safita, in a well-wooded district to the south-east, and thence to the Tripoli–Homs road at Tell Kalakh. R. 1, 11.

RUAD. Lat. 34° 52′ N., long. 35° 51′ E. Population (1938) 4,239. No hotels.

Ruad, an island 2 miles south-south-west of Tartus, is a ridge of rock about 868 yards long and 550 yards across (Fig. 23, Plate 43). There is a cove and anchorage on the east. The inhabitants are Sunnis, and are engaged mostly in fishing and sponge-diving; the village lies to the south end of the island. *Rain-water* collected in large rock-cut cisterns is the only drinking-supply. The island has a magnificent view of the coastal plain with the Ansariyeh mountains in the north and Lebanon in the south.

History

Ruad (*anc.* Arvad or Aradus) was the mother city of several towns on the mainland, including Baniyas, Amrit (Marathus), and Jebeleh. In early days the Aradians extended their influence far inland, Hama belonging to them at one time. They sent a contingent to the Hittites when they fought against the Egyptians at Kadesh, and an Aradian fleet fought on the Persian side against the Greeks at Salamis (470 B.C.). In the Roman period it was eclipsed by Tartus (Antaradus). The island was occupied and defended by the Templars, who built two castles. Only in 1302 after the fall of Tartus was Ruad captured by the Moslems, who razed the fortifications to the ground. In 1914

it was occupied by Commandant Trabaud in the *Jeanne d'Arc*, and for the next four years the Allies used it as a base from which to provision the starving Maronites.

Except on the east where the harbour lies, the island was originally surrounded with a wall built on the rock of massive stones in the Phoenician style of about the tenth century B.C. Five or six courses of masonry are still standing about 30 feet high at the north-west; but the surviving towers are medieval.

Description of Port

The old harbour, which is in Cydnus bay or cove, on the east coast, contained two basins separated by a broad jetty, now much silted up. In recent years the French have restored the jetty and improved the harbour, which has depths of 6–9 feet. The anchorage off the cove is regarded as the best on the coast, with depths from 6 to 18 feet.

Traffic Entries

1938: sailing-vessels 392, tonnage 11,137.

SHAKKAH. Lat. 34° 19′ N., long. 35° 43′ E. Population (1932) 800.

Shakkah, an anchorage 9 miles south-west of Tripoli, lies in the south-east corner of the bay of El Heri and is sheltered by the great promontory of Ras esh Shakkah from southerly winds (Fig. 24, Plate 130). It serves a new cement works and is visited by more small vessels than any other port on the coast except Beirut. The traffic is one-sided: in 1937 the merchandise loaded in the port amounted to 71,017 tons, that unloaded to 5,223 tons. The majority of the inhabitants are Maronites. There was an ancient Phoenician town of which nothing remains except a few rough-hewn stones on the shore. *Water-supply* is from a small reservoir.

The port is of recent importance, and the only facilities are one jetty at which ships unload. This was originally of wood, but has been rebuilt in concrete, 500 feet long with 14½ feet alongside. It is served by an overhead railway which runs to the cement works. Depths of 6–10 fathoms are found 1 mile off shore.

Traffic Entries

1938: sailing-vessels 752, tonnage 33,431.

Communications

The main coast road, which climbs over Ras esh Shakkah through two tunnels, passes close to the sea by the cement works. A motorable



Plate 130. *Shakkah quay and Ras esh Shakkah*



Plate 131. *Jebeil harbour*

PLATE 132. *Sidon harbour*

PLATE 133. *Tyre harbour*

road climbs up the mountain-side to Amiun, from which Bsharreh and Baalbek can be reached. The new railway from Beirut to Tripoli passes by the port. R 1. L 4.

BATRUN. Lat. 34° 16′ N., long. 35° 39′ E. Population (1932) 2,136. Post and Telegraph Office.

Batrun is a village 21 miles north of Beirut on the north side of a small bay (Fig. 24). There is an open anchorage. The inhabitants are mostly Maronites. Batrun and the surrounding country is devoid of spring-water, so the town obtains its *water-supply* from wells dug in the centre of the town and even in the houses themselves.

Batrun (*anc.* Botrys) is mentioned in the Tell el Amarna letters. In the Middle Ages it was one of the episcopal towns in the county of Tripoli: the vineyards on the surrounding slopes were renowned in the times of the Crusaders. Remains of a Roman theatre lie north of the village.

The remains of the ancient port are still visible, and vessels anchor off the village in 10 fathoms; the bottom is sandy.

Traffic Entries

1937: 1 sailing-vessel, tonnage 40.

Communications

Batrun lies on the coast road between Tripoli and Beirut. A motorable road leads up the mountain slopes to summer stations, from which there are connexions to Bsharreh. The railway from Beirut to Tripoli passes the village. R 1. L 4.

JEBEIL. Lat. 34° 7′ N., long. 35° 38′ E. Population (1936) 5,000. Garage. Telephone and Telegraph Office.

Jebeil is a small town about 12 miles north of Beirut at the base of a spur from Mount Lebanon. The harbour is a natural cove. The original town was built on rising ground close to the shore: now it lies mostly between the old site and the foothills of the mountain and along the coast road (Fig. 55, Plate 48). *Water* is supplied by canals from the Nahr Ibrahim.

Jebeil (*O.T.* Gebal, *med.* Giblet, *class.* Byblus) is perhaps the oldest town in the world. In the fourth millennium Jebeil, known then to the Egyptians as Kbn, was a great commercial and religious centre. The forest, to which it owed its early wealth, had disappeared by the

Roman period, but the cult of Adonis made it a pilgrim centre: in the time of Diocletian the inhabitants became Christians, and the town the seat of a bishopric. Afterwards it fell into the hands of the Moslems, and during the Crusades was taken and retaken by either side until 1266, when it was besieged and captured by the Emir Najibj. The castle built by the Crusaders has one tower still standing, north of the Phoenician site.

The port, which is much silted up, lies west of the village. It consists of a cove formed by two great flat reefs, and two jetties with towers at the end of them. It can only shelter small craft (Plate 131).

Traffic Entries

1937: 2 sailing-vessels, tonnage 22.

Communications

Jebeil lies on the coastal road between Tripoli and Beirut; local roads branch off to summer stations in the Lebanon. The railway from Beirut to Tripoli passes through the village. R 1. L 4.

JUNEH. Lat. 33° 59′ N., long. 35° 37′ E. Population (1936) 12,000.

Juneh is a large village with an open anchorage 5 miles north of Beirut on the south shore of the bay of Juneh, which recedes about a mile eastwards between Ras Maameltein and Ras et Tir (Fig. 24). It is surrounded by market gardens and orchards, and the houses are built along the shore and on the lower slopes of the Lebanon. The bay affords a fair shelter in summer from southerly and east winds; vessels anchor in 4½–8 fathoms of water 2 miles off shore. It was in Juneh bay that Sir Charles Napier landed a force of Turkish troops and English and Austrian marines about 15,000 strong, in September 1840. *Water* is from wells.

Traffic Entries

1938: sailing-vessels 18, tonnage 533.

Communications

The railway from Beirut to Tripoli passes through the village, which is also connected with Beirut by the narrow-gauge railway known as the Tramways Libanais. Juneh lies on the coastal road between Tripoli and Beirut. Motorable roads lead to summer stations in the Lebanon. R 1. L 4, 8.

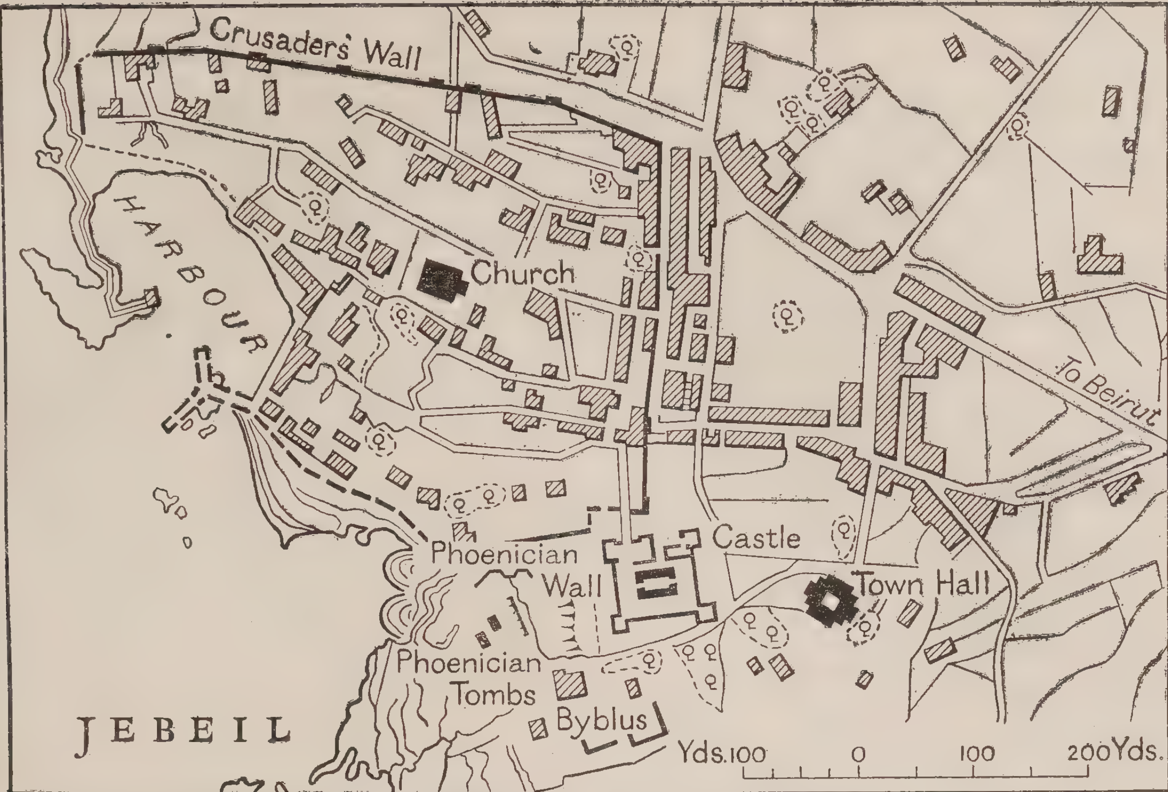


FIG. 55. *Harbour and town of Jebeil*

FIG. 56. *Harbour and town of Sidon*

SIDON OR SAIDA. Lat. 33° 33′ N., long. 35° 23′ E. Population (1936) 12,710. Hotels. Bank. Cinema. Garages. Post Office.

Saida (*anc.* Sidon, *med.* Sajete), 21 miles south of Beirut, is built on a promontory with an island off shore, like many Phoenician towns (Fig. 56, Plates 51, 53, 132). There is a small natural harbour improved by artificial works. The modern town lies in a coastal plain and is surrounded by orchards of oranges, bananas, and apricots, irrigated by canals from the Nahr Awali which also supply the town with *water*. Behind, the foothills of the Lebanon rise with Jebel Niha in the distance. The population is mixed, the large majority Sunnis, but there are considerable numbers of Greek Orthodox, Maronites, Mitwalis, and Jews.

History

Sidon is mentioned both in the Old Testament and in Homer, and was the greatest of the Phoenician trading cities until about 1200 B.C., when the Sidonian fleet was defeated by the Philistines and the hegemony passed to Tyre. Sidon revolted against Assyria 680–670 B.C.; it was taken, and the nobles were executed, the people exiled to Assyria and replaced by colonists from Chaldea and Susa. It revolted later against Persia in 350 B.C. and 40,000 of the inhabitants are said to have been burnt with their king. During the Roman period it formed a kind of a republic for a time; later it was the seat of a bishopric. During the Crusades it passed from side to side, being captured by Baldwin in 1111, when it became the capital of one of the four great baronies of the Latin kingdom of Jerusalem. It was abandoned by the Crusaders in 1291. Subsequently Fakhr ed Din, a Druse dynast who defied the Turks (1594–1634), rebuilt the town but blocked the harbour from fear of the Turkish fleet; yet it was for long the port of Damascus, and till 1791 was the main centre of Levantine trade with Europe and particularly with France; in 1840 the fortress was bombarded by the Napier expedition; in 1920 it was incorporated into the State of Lebanon by the French.

The Castle of St. Louis, to the south of the town, the Khan of Fakhr ed Din, now a girls' orphanage, the Great Mosque, built in the shell of the Church of the Hospitallers, and the Phoenician cemetery outside the town are evidence of the varied history of Sidon. The town has a local system for the delivery of water from house to house by siphons.

Trade and Industry

Oranges and lemons are the principal products exported. Goods are also landed by lighter at Saida from large ships off shore instead of at Beirut, to avoid heavy harbour dues.

Traffic Entries

1938: sailing-vessels 365, tonnage 12,810.

Description of Port

The ancient port, like that of Tyre, was double, but the old south basin, the Egyptian port as it was called, is no longer used, and the north basin is largely choked up. A line of reefs protects the harbour on the west, leaving a narrow entrance, a hundred yards wide, between it and the Kalaat el Bahr; this castle was built by the Crusaders on a rock and joined to the shore by a causeway which forms the north end of the harbour. At the south end of the harbour is a small basin cut from the rock. Recently the harbour has been deepened. Depths are from 1 to 6 feet (Fig. 56, Plates 53, 132).

Communications

The railway from Haifa to Beirut passes about three-quarters of a mile east of the town. The main coast road goes through Sidon. The road to Merj Ayun forks off 5 miles south of Sidon, and a local road to Jezzin forks $1\frac{1}{4}$ miles north of the town. R 1, 5.

TYRE or SUR. Lat. 33° 16′ N., long. 35° 11′ E. Population (1936) 5,890. Hotel. Garage. Post Office.

Sur (*anc.* Tyrus), 39 miles south of Beirut, is on a low peninsula which was once an island (Fig. 26, Plate 52). The island was nearly a mile long from north to south, and two harbours, the Sidonian to the north and the Egyptian to the south, were on either side of the neck of land which now joins the islet to the mainland. Tyre is a small fishing-place. More than half the inhabitants are Mitwalis, most of the remainder Greek Catholic. *Water* is abundant in the neighbourhood, being brought by an ancient aqueduct from Ras el Ain, 4 miles south.

History

Tyre, whose origin dates back farther than the second millennium, was at its zenith about the beginning of the first millennium B.C.,

when Sidon was comparatively in eclipse. Hiram, Solomon's contemporary, ruled Tyre in the tenth century; Jezebel, the wife of Ahab, was a Tyrian princess, and later Dido, another Tyrian princess, founded Carthage; the great harbour works date from this period. Tyre was captured by Sennacherib in 700 B.C. and lost much of its power, but it was besieged in vain by Nebuchadnezzar from 587 to 574. After another siege lasting only seven months it fell to Alexander the Great, who filled in the channel which divided the island from the mainland and breached the walls. Tyre early became converted to Christianity and was the seat of an archbishopric with fourteen bishoprics dependent on it; in the fourth century A.D. it possessed a cathedral. In 636 Tyre fell into the hands of the Moslems, but was captured by the Crusaders in 1124, who did not evacuate it until after the fall of Acre in 1291. In 1766 it was seized by the Mitwalis, and shortly afterward its buildings were destroyed to rebuild Acre. In 1920 the French incorporated in into the State of Lebanon.

Description of Port

The north or Sidonian harbour, which is the only one now used, consists of a small bay enclosed on the north by a jetty of ancient origin which has recently been rebuilt. There are up to 6 feet of water in the port (Plates 52, 133).

Traffic Entries

1938: sailing-vessels 200, tonnage 3,099.

Communications

Tyre lies three-quarters of a mile off the coastal road from Beirut to Ras en Nakurah, and the same distance from the Haifa–Beirut railway. There are local roads leading to villages in the hills. R 1, L 1.

CHAPTER XIV

COMMUNICATIONS

A. ROADS

History

UNTIL comparatively recently there were no metalled roads in Syria and the sole means of transport consisted of pack and riding animals: in the desert the camel, both for man and for goods, and in the more mountainous west the mule, donkey, and to a lesser extent the horse. Hence the thoroughfares, even the main trunk lines of communication, were only paths and trails. Wheeled transport developed late in Syria, partly because of the mountainous or desert character of the greater part of the country, and few wagon roads were constructed before the beginning of the present century. To-day pack transport is insignificant, except in very remote districts, as the wealthier folk—the travelling and transporting classes—have a part share at least in some kind of motor vehicle.

The first carriage road from Beirut to Damascus was started in 1857 and was completed in 1865 under a concession granted by the Ottoman Government to a French company organized by the Comte de Pertuis. In 1892 this company was absorbed into the 'Société de Chemins de fer Ottomans de Beyrouth–Damas–Hauran', afterwards known as the 'Société Ottomane de Chemin de fer Damas–Hama et Prolongements'. The road was well maintained during the Turkish regime because of its strategic value.

Few roads were built elsewhere during the last years of the nineteenth century, and several previously constructed were allowed to fall into disrepair. Then emigrants, principally from the Lebanon, who had become wealthy, and wished to acquire prestige both for themselves and their native villages on their return from abroad, caused roads to be built linking their villages with the principal towns and other parts of the country. Many of these roads were badly planned and worse constructed, and the whole road system was entirely unorganized; where the need was greatest the roads were fewest.

During the war of 1914–18 road building received a fresh impetus. New roads were planned and constructed to meet the demands of military transport, and the old ones were improved to take the heavier

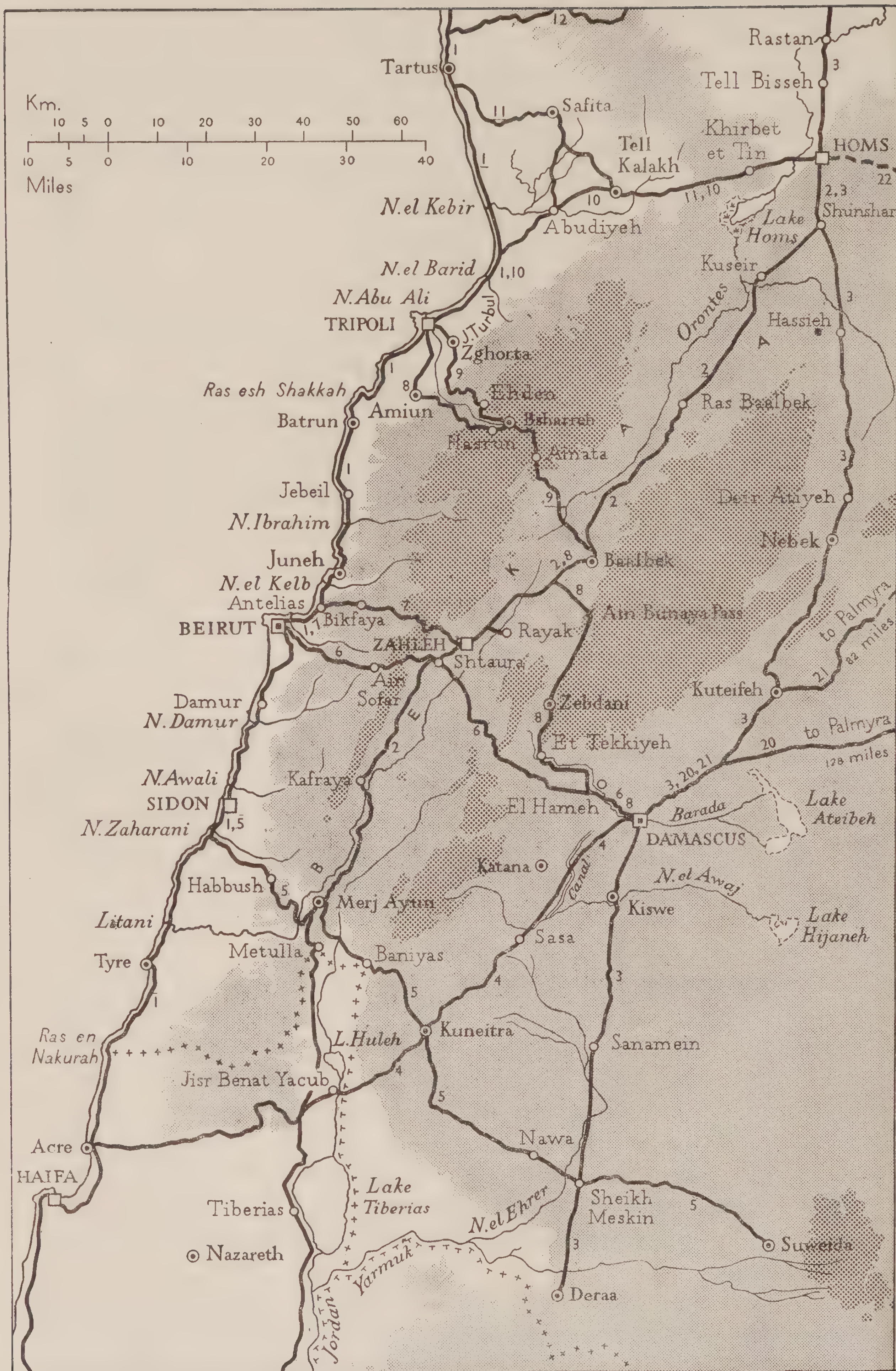


FIG. 57· *Roads of the Lebanon and southern Syria. Key of heights is on Fig. 60*

war-time traffic. By 1918 there were many miles of new roads, and Syria for the first time since the Roman era had the elements of a road system.

Under French administration road building was carried out according to a systematic programme, whereby the economic, not the military, needs of the country were the primary factors involved, though naturally political and strategical interests were not ignored. Roads to be constructed and maintained fell into two categories: (i) main highways of general interest to the country and constituting the main trans-Syrian channels of transport, or serving important centres of population; and (ii) secondary roads serving a smaller area, and of solely local importance.

System of Western Syria

In western Syria the main physical features lie in lines stretching from north to south, parallel to the coast and to each other. Hence the three trunk lines giving through communication between Palestine and Turkey follow the same trend, while subsidiary roads linking these main routes cut transversely across the grain of the country. (Figs. 57, 60).

The obstacles in the south to lateral communications are the Lebanon, Anti-Lebanon, and Hermon. The latter also effectively blocks, at present, easy access from Palestine northwards to the Bekaa. The Hermon area has fewer good roads than any other part of Syria. In the north the effective obstacle is not so much the Ansariyeh as the Ghab. There is no modern east–west road between Masyaf in the south and Jisr esh Shogur in the north. This lack of good roads in the Ansariyeh is due to poverty rather than to difficulty of construction.

The coastal road makes its way over plain and mountain from Ras en Nakurah to Latakia. The other two south–north roads follow the depressions on either side of the Anti-Lebanon, meet at Homs, and continue northward across the central steppes to Aleppo. The focal points of the transverse roads are Damascus, Homs, and Aleppo, which are also the termini of the desert routes. In the south, roads cross the Lebanon and Anti-Lebanon by natural gaps, of which the chief are the passes of Dahr el Beidar and Bsharreh in the Lebanon and the Zebdani depression in Anti-Lebanon. North of Lebanon the Tripoli–Homs gap between the Lebanon and Ansariyeh provides the only easy routeway from west to east in Syria. Several roads wind across the main chain of the Ansariyeh to the central plains by

devious routes, but the only natural routeway of any value is the narrow valley of the northern Nahr el Kebir, which is followed by the main road from Latakia to Jisr esh Shogur and Aleppo. The routes which cross the Lebanon and Ansariyeh seldom use the narrow gorge-like river valleys, but follow the hills above them, usually along a series of west–east ridges or hogs-backs leading to the main north–south chains, over or through which they climb to a steep direct descent down to the Bekaa or Ghab.

It is only in the Damascus and Aleppo regions that the north–south and east–west roads combine to form a radiating network based on a central city. From Damascus roads fan out southwards and westwards across the Hauran and Jaulan and northwards through the Kalamun ridges. Likewise from Aleppo routes cross the steppes north and west to the Syrian frontier, south to central Syria, and east to the Euphrates. Connexion with Iraq is provided by the system of desert roads described below. The Euphrates is the natural highway to Iraq and the Red Sea, but only one metalled road leads to it across the northern steppes from Aleppo to Meskeneh, whence a route follows the right bank to Abu Kemal.

In the western Lebanon there is a network of purely local roads of varying quality leading from Tripoli and Beirut to the villages and summer stations of the mountains (Plate 145). The villages of the Jebel Druse are similarly served by poor but motorable tracks based on Suweida.

Road and Rail

The railway system described in the second part of this chapter mainly duplicates certain of the Syrian major roads. Only the Yarmuk railway (Line 7) follows a route which is not employed by any roadway.

Desert Roads

In eastern Syria metalled roads disappear. The routes which cross the desert are perfectly adequate for modern transport, as the desert surface is mainly suitable for cars; but the roadway is only used, and sometimes only exists, at difficult points, to descend escarpments or to cross wadis. Through constant usage several tracks have been well worn and are easy to follow.

Commercial relations have always existed between Syria and Mesopotamia, but the caravans usually avoided the desert and used the northern route from Aleppo to Meskeneh and down the Euphrates valley to Iraq—a lengthy road, dangerous in spring because of floods,

and liable to raids from the beduin. Alternatively, caravans passed through towns at the foot of the Kurdish mountains—Harran, Nisibin (Nusaybin), and Mosul—which meant a great detour.

With the advent of the motor-car and of quieter conditions in the desert under French rule, regular trans-desert bus services have been set up between Damascus and Baghdad. There are no great obstacles to be circumvented in the Syrian desert, its hills are easily rounded and sand-dunes are rare; but the wadis are not always easy to cross except at selected points. Wells are scarce, and they often govern alinement.

Damascus, Homs, and Aleppo are the main starting-places of the desert routes, nearly all of which pass through Palmyra, which lies roughly half-way between these towns and the Euphrates valley (Fig. 62). The eastern termini of the tracks from Palmyra are the Euphrates crossings at Rakka, Deir ez Zor, and Abu Kemal, which are the western termini of the routes crossing the Jezireh, and are also linked by the road along the Euphrates from Meskeneh to Abu Kemal. The roads of the Jezireh mainly follow the tributaries of the Euphrates; the chief of these are from Rakka northwards to Tell Abiad (*Turk.* Akçakale) along the Balikh valley, and from Deir ez Zor up the Khabur to Hassetche: there are routes from Hassetche to the towns on the Turkish boundary, Ras el Ain (Resülayn), Kamichlieh, and Jeziret ibn Omar.

Traffic

Desert bus services increased greatly in the years preceding the present war, except during 1936, when there was a decrease in the number of passengers, partly owing to political troubles; but since then traffic has grown annually. The innovation of air-conditioned Pullman buses and the consequent extension of traffic to the summer, instead of its limitation to the cool-weather period, has caused a decided increase. Figures for desert traffic in 1935–7 are as follows:

	Goods in tons	*Passengers*	*Vehicles*
Damascus to Baghdad			
1935 . . .	2,548	10,331	1,242
1936 . . .	1,696	8,565	1,296
1937 . . .	3,190	11,489	1,642
Baghdad to Damascus			
1935 . . .	2,987	10,328	1,209
1936 . . .	2,448	9,277	1,148
1937 . . .	3,568	11,784	1,678

The number of vehicles circulating in Syria varies considerably from province to province, the greater number being found in the west, where roads are better and numerous, and where richer people live who are able to buy cars or lorries. The province of Latakia is, however, exceptionally badly provided with motors. The number of vehicles in the French mandated territories in 1938 was as follows:

Private cars and taxis	8,355
Buses	519
Lorries (private and commercial)	1,746
	10,620

Motor cycles are rare: in the State of Lebanon in 1938 there were 465, and in Syria in 1937 the number was 326.

The division of vehicles among the States was as follows:

Lebanon	6,963	
Syria	3,657	10,620
Also, the Mohafazat of Jebel Druse had	285	
the Mohafazat of Latakia had	134	

Quality of Roads

The selection of routes which is described in detail below nearly exhausts the number of roads in Syria which have modern metalled surfaces and which cross rivers by bridges of ancient or modern design. Even of these, some are unmetalled and lack bridges in certain sections. There are few roads in Syria with tarmac or asphalt surface, except for the coastal road and the main north–south route in the sections from Damascus to Aleppo. Generally the upkeep of a modern road system is beyond the financial capability of the Syrian republics. Hence it is not worth while to describe in any detail the surface of roads which tend to deteriorate rapidly. Syrian roads are narrow by west European standards, 12 to 15 feet being an average width, but it is rare even in the mountains that the roads described below have not room for two lines of traffic.

Bridges are numerous rather than large. Except where they approach the sea, the rivers of western Syria, including the Orontes, are narrow. Even on the coastal road there are only a few bridges that exceed 200 feet in length, none that exceed 300. In the mountains it is the width of the ravines rather than of the streams that causes difficulty; here again a bridge 200 feet long is exceptional. Bridges may be either of modern stone or concrete or steel and concrete construction with one or two spans, or else multiple-arched brick works of ancient design. The only great bridge in Syria is the suspension bridge over the Euphrates at Deir ez Zor (*see* p. 357).

Snow Blockage

The routes through the Lebanon, Anti-Lebanon, and Ansariyeh mountains may be blocked by snowfall between January and March for periods of a few days. The duration and frequency of such blockage varies greatly from year to year (*see* p. 85).

Summary of Routes

The selection of thirty routes described below may be summarized as follows (Figs. 57, 60, 62):

Western Syria

South–North Trunk Roads

Route 1. Ras en Nakurah–Beirut–Tripoli–Latakia–Turkish Frontier.
2. Metulla (Palestine frontier)–Homs.
3. Deraa–Damascus–Homs–Hama–Aleppo–Turkish Frontier–(Killis).
4. Jisr Benat Yacub (Palestine frontier)–Kuneitra–Damascus.

West–East Lateral Roads

Route 5. Sidon–Merj Ayun–Kuneitra–Suweida.
6. Beirut–Shtaura–Damascus.
7. Beirut–Antelias–Zahleh.
8. Tripoli–Amiun–Bsharreh–Baalbek–Zebdani–Damascus.
9. Tripoli–Zghorta–Bsharreh–Baalbek.
10. Tripoli–Tell Kalakh–Homs.
11. Tartus–Safita–Tell Kalakh–Homs.
12. Tartus–Masyaf–Hama.
13. Baniyas–Masyaf–Hama.
14. Latakia–Slenfeh–Jisr esh Shogur.
15. Latakia–Jisr esh Shogur–Aleppo.

Routes radiating from Aleppo

Route 16. Aleppo–Kasr el Benat–(Antioch).
17. Aleppo–Afrin–(Alexandretta).
18. Aleppo–Afrin–Meidan Ekbes.
19. Aleppo–Meskeneh–Abu Kemal.

Eastern Syria

Route 19. As above.

Routes across the Syrian desert

Route 20. Damascus–Saba Biar–Palmyra.
21. Damascus–Karyatein–Palmyra.
22. Homs–Forklos–Palmyra.
23. Palmyra–Sukneh–Rakka.
24. Palmyra–Sukneh–Deir ez Zor.
25. Palmyra–Abu Kemal.
26. Meskeneh–Rakka–Abu Kemal.

Routes crossing the Jezireh

Route 27. Rakka–Tell Abiad.
28. Deir ez Zor–Hassetche–Ras el Ain.
29. Hassetche–Kamichlieh.
30. Hassetche–Ain Divar (Jeziret ibn Omar).

WESTERN SYRIA

Route 1. Ras en Nakurah–Beirut–Tripoli–Latakia–Turkish Frontier

This road follows the coast fairly closely except between Latakia and the Turkish frontier. It runs mostly through the level coastal plains or along the rising ground at the foot of the hills fringing them; where the mountains sweep down to the sea, particularly between Beirut and Tripoli, it becomes a difficult road in short sections. It is a modern metalled and tarmac road with an average width of 10 feet (26 between Ras en Nakurah and Beirut) to 3 miles north of Latakia, where the modern surface is replaced by broken limestone.

Numerous mountain streams, often dry and fordable in summer, are crossed by small single- or multiple-arched bridges (up to 8 spans of 30 or 40 ft. each) or culverts of brick, stone, or concrete. The only considerable bridges are over the large rivers: (a) south of Beirut, the Nahr Damur (2 spans of 98 ft., under reconstruction); (b) between Beirut and Tripoli, the Nahr Beirut (6 spans of 39 ft., concrete), Nahr Kelb (3 spans; total 200 ft., concrete), Nahr Ibrahim (2 spans; total 200 ft., concrete); (c) between Tripoli and Latakia, the southern Nahr el Kebir (2 spans; total 162 ft., concrete), the Nahr er Rus (116 ft., iron), and the northern Nahr el Kebir (2 spans of 122 ft., concrete), and several bridges of 90–110 feet (Plates 46, 134–5).

Itinerary

From Ras en Nakurah to Sidon the road crosses the coastal plain, which has a width of 3 to 5 miles and is fringed by low hills, 500–800 feet high. Tyre is by-passed at mile 15 and the Litani crossed at mile 20, 14 miles beyond which Route 5 branches off south-east to Merj Ayun and Suweida just before the crossing of the Zaharani. Sidon (mile 40, *see* p. 322) is reached through gardens and orchards which are watered by the Nahr Awali, crossed at mile 42. North of Sidon the plain is very much constricted by spurs which sweep down from the southern Lebanon to form a series of headlands over which the road climbs. North of Ras ed Damur the road passes through the richly cultivated plain and the valley of Damur at mile 54 (5,000 inhabitants; Maronites), beyond which the hills again lie close to the shore for 4 miles. Then the road swings inland across the base of Ras Beirut through a heavily populated region, to enter Beirut from

the south by the Rue de Basta (mile 69). From Beirut Route 6 branches off south-east over the Lebanon to Damascus. The city may be by-passed by a road which leaves the coast road at Hadeth (mile 65), crosses the Nahr Beirut by the old Pasha bridge (Jisr el Pasha), and rejoins the coast road at Jeideh (Fig. 58).

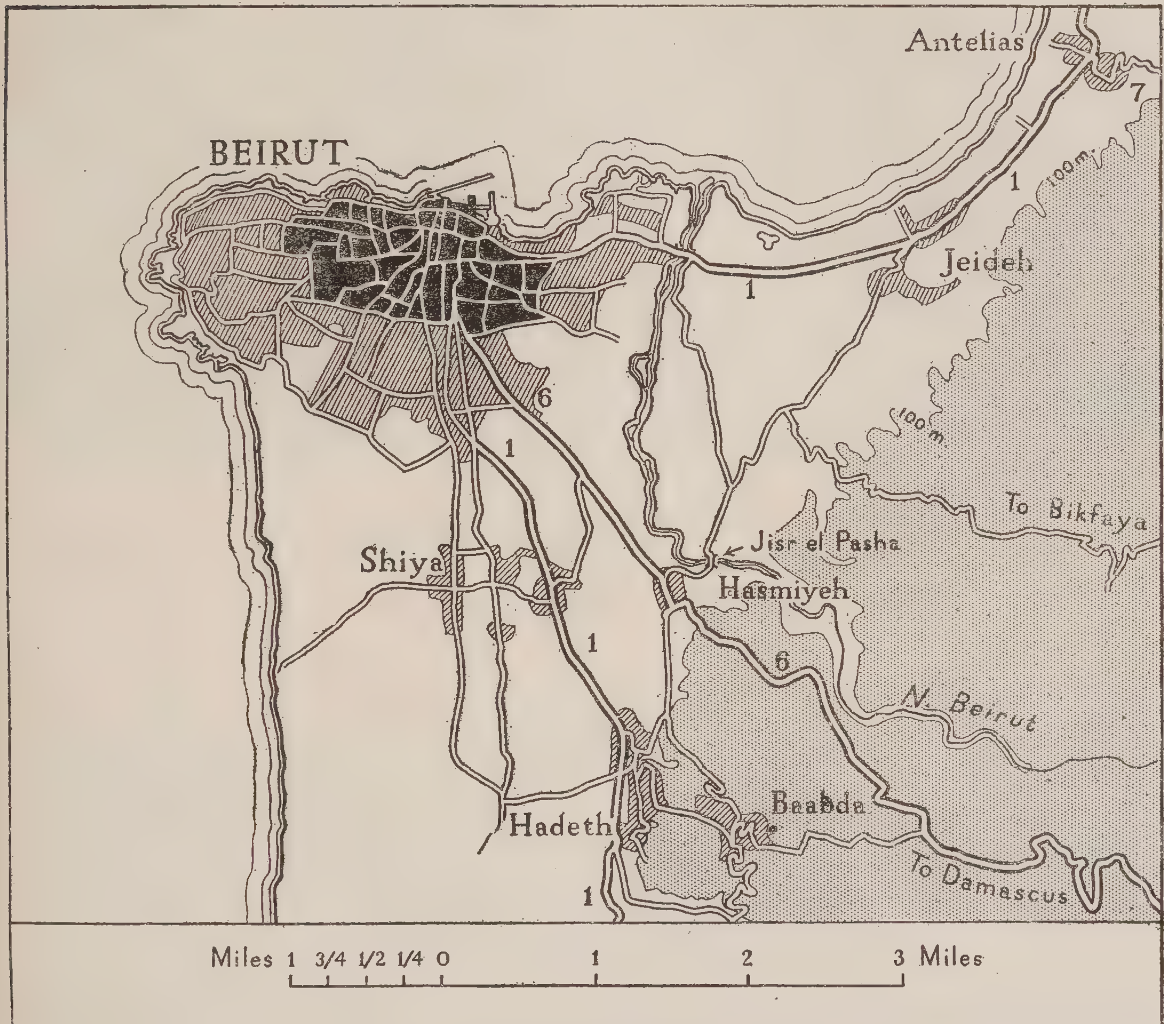


FIG. 58. *Road exits from Beirut*

Between Beirut and Tripoli the mountain slopes fall abruptly to the sea. The coastal plain is in many places less than a mile wide, though it seldom disappears altogether, and the road is obliged to follow closely by the shore, and is occasionally carried through rock-cuttings. The narrow plain is everywhere intensively cultivated, and the road passes through a succession of olive- and banana-groves, orchards, and gardens. The road leaves Beirut by the Rue Gouraud, crossing the Nahr Beirut close to its mouth by the lower of its two road bridges. At Antelias (mile 74) Route 7 branches off eastward

across the Lebanon to Zahleh. Three miles beyond, the road crosses the Kelb river, and climbing over Ras et Tir descends to Juneh (*see* Chap. XIII, p. 320), a residential suburb of Beirut, at mile 81. Nine miles farther the Nahr Ibrahim is crossed and the village of Jebeil is skirted at mile 94. The road continues along the shore to Batrun (mile 107, *see* p. 319), beyond which it rounds Ras Kubbeh and starts to climb 260 feet over the great headland of Ras esh Shakkah, passing through two short tunnels, beyond which it descends steeply to the small port of Shakkah (mile 118, *see* p. 318) and continues to Tripoli at mile 129 (Plate 45). From Tripoli Routes 8 and 9 strike south-east across the Lebanon to Bsharreh and Baalbek (Fig. 59).

North of the town the hills gradually fall away and the road runs close to the shore for 9 miles through orchards and olive-groves to the Nahr el Barid (mile 138), beyond which the plain of Akkar widens to its maximum width. Route 10 branches off eastward to Homs at mile 141. Northward the coastal road runs close to the sea and at sea-level behind a belt of sand-dunes for 27 miles to Tartus (*see* p. 316). The Nahr el Kebir is crossed at mile 148, and a mile south of Tartus Route 11 branches south-east to Safita and Homs. Between Tartus and Baniyas the foothills of Jebel Ansariyeh narrow the coastal plain to a width of 2 miles or less; for the first 11 miles the road follows the foot of the hills and overlooks the sea about 1½ miles from the shore, to which it returns after crossing the Nahr Markiyeh at mile 179. Between this river and Baniyas (mile 193, *see* p. 315) the plain is reduced to a narrow strip. Half a mile north of Baniyas Route 13 branches off across the Ansariyeh to Hama, the plain widens, and the coast road turns inland. It traverses the sloping ground along the foot of Jebel Korfes, running from 2 to 4 miles inland and about 100 feet above sea-level, crosses the Nahr er Rus (mile 213), and continues along the higher ground to the crossing of the northern Nahr el Kebir (mile 225). Three-quarters of a mile south and west of the bridge respectively routes branch off to Aleppo via Jisr esh Shogur (*see* Routes 14 and 15), while the coast road turns westward into Latakia (mile 228, *see* p. 311 and Fig. 61).

Beyond Latakia the road crosses undulating country about 3 miles inland of the coast, to which it is linked by numerous tracks, and 11 miles from Latakia it climbs 500 feet over a low ridge of hills, descends to the Nahr el Kandil valley, which it follows northward to its head, and thence mounts the south-east spurs of Jebel Akra to the Turkish frontier, 36 miles from Latakia.



Plate 134. *Old stone bridge on coastal road*

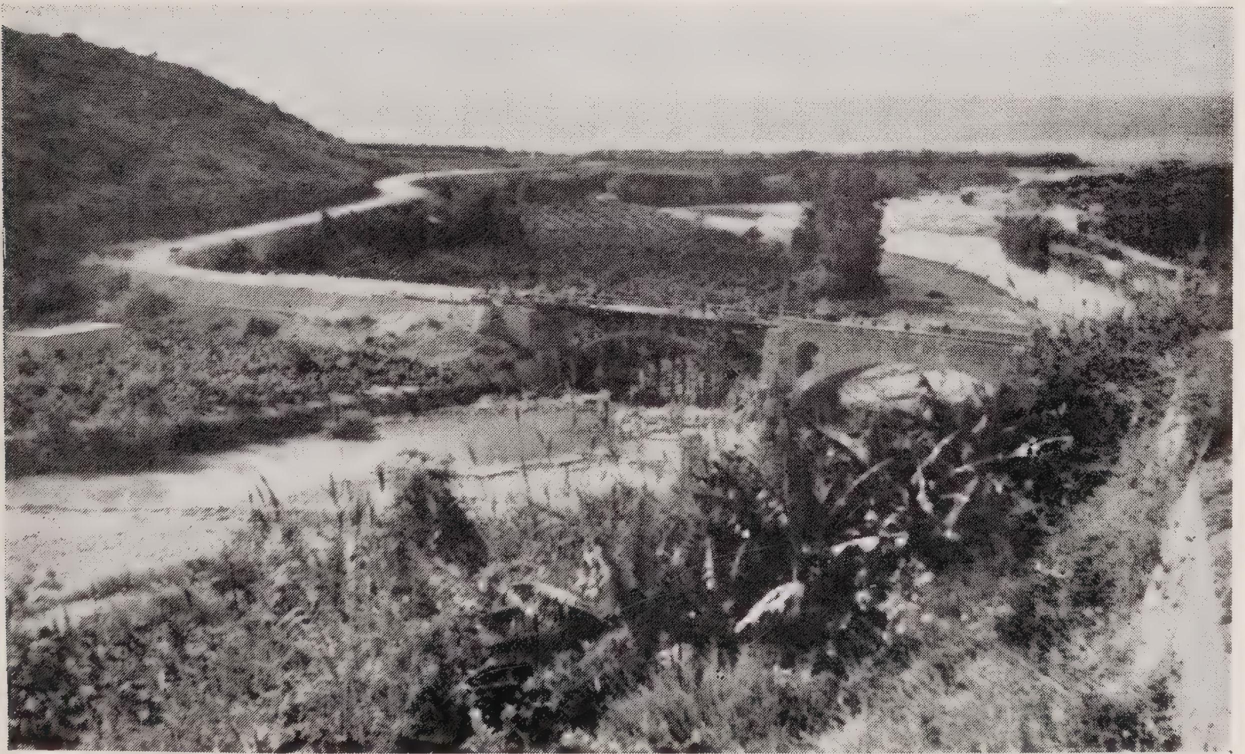


Plate 135. *Modern bridge over the Damur on coastal road*



Plate 136. *Ascent from Jordan valley to Hauran plateau*



Plate 137. *Pack transport on Beirut–Zahleh road in winter*

Total distance 264 miles.

Ras en Nakurah–Beirut	. 69	miles.
Beirut–Tripoli . .	. 60	,,
Tripoli–Latakia . .	. 99	,,
Latakia–Turkish Frontier	. 36	,,

Route 2. METULLA (PALESTINE FRONTIER)–HOMS

This route, continuing the road from Beisan and Tiberias, links Palestine to central Syria by the Huleh depression, the Litani gorge, and the Bekaa, through which it follows the Rayak–Aleppo railway for much of the way. Up to the Bekaa the road is narrow and tortuous. It is an all-weather road, not asphalted until Shtaura; thence to Homs it has a macadam surface and beyond Ras Baalbek is a double-carriage way. No details of bridges are known.

Itinerary

From the northern end of the Huleh depression at Metulla the road gradually ascends a broad valley north-north-east through the foot-hills of Hermon, past the junction with Route 5 to Merj Ayun at mile 10 (for town *see* p. 229). Beyond, the valley narrows and leads through to Borguz (mile 14) above the gorges of the Litani, 1,900 feet below. The road follows the gorges 7 miles to Yahmur, beyond which the Litani valley begins to open out. At mile 25 the road crosses to the west bank by a triple-arched bridge. For the next 4 miles it is cut from the rock nearly 400 feet above the Litani bed, and winds with steep bends up to the plain of Bekaa at Kafraya. From here the road runs along the foot of Jebel Baruk on the west side of the well-cultivated Bekaa, past Kabb Elias, a hill-side village (inhabitants 2,000; Christian and Mitwali), to Shtaura at mile 48, where it is crossed by Route 6 from Beirut to Damascus. Three miles beyond Shtaura the Beirut–Damascus railway joins the road, leaving it at Moallaka (mile 53). This village is practically a suburb adjoining Zahleh (*see* p. 233). Eight miles beyond, the road cuts east-north-east across the Bekaa, crossing the Litani at mile 63 and the Rayak–Aleppo railway, and continues north-east to Baalbek (mile 72). Seven miles before the town Route 8 branches off to the south-east for Zebdani and Damascus. Baalbek (*see* Chap. VIII, p. 221) lies in the centre of a rich agricultural area and is the junction for the western section of Route 8 from Tripoli. Beyond Baalbek the road crosses the watershed of the Litani and Orontes and descends gradually past Ras Baalbek station, at mile 95, where the line is again crossed, to

Rableh at mile 113 (500 inhabitants; Greek Catholic). Here the Bekaa opens out, as the Lebanon and Anti-Lebanon recede, and gradually merges into the plain of Homs. At Kuseir (mile 117) the road recrosses the railway and turns north-east across the plain towards Shunshar (mile 127), where it joins Route 3 from Damascus to Aleppo, which is followed to Homs (mile 136, *see* p. 213).

Total distance 136 miles.

Metulla–Merj Ayun . .	10 miles.
Merj Ayun–Shtaura . .	38 ,,
Shtaura–Homs . . .	88 ,,

Route 3. Deraa–Damascus–Homs–Hama–Aleppo–Turkish Frontier–(Killis)

This is the grand trunk route of central Syria and is the easiest of all the roads. It crosses the central steppes from south to north, passing east of the Anti-Lebanon by the valleys between the Kalamun ridges, the crossing of which causes very little difficulty.

The road is wide enough for two lines of traffic all the way, and is 15 feet wide between Homs and Aleppo, with a metalled all-weather surface from Deraa to Damascus and a modern macadam surface from Damascus to Aleppo, which deteriorates quickly in the Kalamun valleys.

The only bridge of importance is the Orontes crossing at Rastan, a twelve-arched masonry bridge 450 feet long. Wadis are crossed by small stone, concrete, or masonry bridges 20–80 feet long.

Itinerary

The road traverses the Hauran northwards across several wadis, rising gently to Sheikh Meskin (mile 15), a large village, and the junction of Route 5 from Kuneitra to Suweida. Between Sheikh Meskin and Sanamein, a distance of 17 miles, the road passes between 3 and 5 miles west of the great chaotic lava mass of the Leja, and crosses the Nahr el Ehrer half-way between the two places. From Sanamein the road follows the western edge of Jebel Khiyareh and Jebel Maani for 21 miles, climbing very gradually to Kiswe (mile 53), where it cuts over the low western extension of Jebel Maani by an easy col and crosses the Nahr el Awaj. For the last 13 miles to Damascus the road descends gently to the oasis, entering the city at mile 66 through the Meidan quarter. Damascus (*see* Chap. VIII, p. 207) is the junction of Route 6 from Beirut and Route 4 from Palestine by

Kuneitra, and is the most important of the western termini of the desert routes.

The road to Homs leaves by the Rue de Salihiyeh and Boulevard de Baghdad, and goes north-east through the oasis. It passes by the town of Duma (10,000 inhabitants) and for almost 5 miles follows the eastern edge of the third Kalamun ridge. It then cuts through a gap in the ridge, mounting for 8 miles to a col (3,190 ft.), and descends to cross the plain dividing the third and second Kalamun ridges, passing through Kuteifeh at mile 90 (3,050 inhabitants; Sunnis). Two miles beyond Kuteifeh the road turns west over stony uplands to cut through the second Kalamun ridge by a broad col, and continues north-east along the valley between the second and first Kalamun ridges to Nebek at mile 116 (5,000 inhabitants; Sunnis), whence it descends gently for 5 miles to Deir Atiyeh (6,000 inhabitants; Moslem), a village in the midst of an oasis. Here the road turns north and for 45 miles crosses undulating steppe-land, climbing over the shoulder of Jebel Sawan (4,458 ft.) at mile 128 and on to Shunshar (mile 157), the junction with Route 2, and Homs (mile 166), one of the most important communication centres in Syria. The railway lines from Rayak and Tripoli to Aleppo have their junction here; Route 10 from Tripoli here joins Routes 2 and 3 from Metulla and Deraa. The northern branch of the pipe-line passes 2 miles south of the town, which is also the starting-point of Route 22 eastwards to Palmyra and the Euphrates valley (for town *see* p. 213).

Between Homs and Hama the road crosses a level stretch of fertile and highly cultivated land dotted by occasional hills or 'tells'. Leaving Homs the road follows the Rayak–Aleppo railway for the first 7 miles to Tell Bisseh, 5 miles beyond which it descends to cross the Orontes at Rastan by an old Arab masonry bridge, rises on to the plateau again, and continues northwards for 14 miles to Hama, passing along the western edge of Jebel Arbain. Hama (mile 192, *see* p. 215) is the junction of Routes 12 and 13 from Tartus and Baniyas on the coast, and of desert tracks to the Euphrates valley.

North of Hama the road crosses the railway at mile 201 and passes for 13 miles through a monotonous undulating region to Khan esh Sheikhun (3,000 inhabitants), beyond which it climbs gently over the lower slopes of Jebel Zawiyeh, crossing high dry uplands to Maaret en Numan (for town *see* above p. 227) at mile 229, beyond which it gradually descends to the plateau, which is crossed northwards to Teftenaz (mile 254), where it is joined by Route 14 from Latakia. At Urum es Sughra (mile 266) Routes 16 and 17 come

in from Antioch and Alexandretta. The road turns north-east across the level plateau to Aleppo (mile 282; *see* p. 211), which is a focal point for local roads from Antioch and Alexandretta in the west, and the Euphrates in the east (Routes 16–19. Fig. 62).

Beyond Aleppo the road continues north-west for 12 miles across the level plain bordered on the west by Jebel Siman; it then swings north and begins to rise gently over undulating steppes towards the Kurdish foothills, turning sharply north-east at mile 310, the junction for Route 17, to cross the Aleppo–Meidan Ekbes railway to Azaz at mile 312 (4,800 inhabitants; Sunnis and Armenians). From Azaz it crosses a fertile plain, through olive-groves, orchards, and vineyards to the Turkish frontier (mile 316), 6 miles beyond which is Killis.

Total distance 316 miles.

Deraa–Damascus	66	miles.
Damascus–Homs	100	,,
Homs–Hama	26	,,
Hama–Aleppo	90	,,
Aleppo–Turkish Frontier	34	,,

Route 4. Jisr Benat Yacub–Kuneitra–Damascus

This road links Tiberias, on the Palestinian continuation of Route 2, directly to Damascus across the Jaulan plateau. It is an all-weather road 13–19 feet wide with modern surface between Kuneitra and Damascus. The largest bridges do not exceed 70 feet in length.

Itinerary

From the Jordan bridge of Jisr Benat Yacub the road crosses the Syrian frontier north-eastward, and climbs steeply up 1,000 feet in 2 miles to the Jaulan plateau (Plate 136). For 13 miles the road ascends gently through an undulating and stony plain towards Kuneitra, the junction with Route 5, at mile 16, where cultivation begins. From Kuneitra (*see* p. 227) the road continues north-east through the northern Jaulan towards Damascus, passing round the foot of Mount Hermon. It crosses many small wadis by small bridges; lava masses stretch away to the north, and swamps to the south. Beyond Sasa, mile 34, the road crosses the Nahr Awaj and follows an irrigation canal for 12 miles to Artuz at mile 46. Here the road enters wooded and cultivated country as it approaches the Damascus oasis. It follows the foot of Jebel Hashin, past Madamiyeh

(mile 49, 720 inhabitants), and descends very gently through orchards and gardens for 8 miles to Damascus at mile 57 (*see* p. 207).

Total distance 57 miles.

Jisr Benat Yacub–Kuneitra .	16	miles.
Kuneitra–Damascus . .	41	,,

Route 5. Sidon–Merj Ayun–Kuneitra–Suweida

This road winds round the southern end of Lebanon and Hermon across the Jaulan and Hauran plateau to the western slopes of the Jebel Druse. It is the southernmost of the west–east routes across Syria and provides direct access to Damascus by the junction with Route 4 at Kuneitra, without crossing the main chain of Lebanon or Anti-Lebanon. This is an all-weather road, narrow as far as Metulla and 13 feet wide between Metulla and Kuneitra; the final section from Sheikh Meskin to Suweida is a double-carriage way. There are many small bridges of stone, masonry, or concrete.

Itinerary

It leaves the coastal road, Route 1, 5 miles south of Sidon, turning south-east and climbing steeply to the high ground above the Nahr Zaharani, which lies in a deep gorge. From Habbusa (mile 18) it turns south and descends to Nabatiyeh et Tahta at mile 21 (3,300 inhabitants; Mitwalis) in a parallel valley which it follows upstream for 3 miles to Kefr Tibnit, where it crosses the valley head and descends 900 feet in a circuitous 3 miles down to the Litani, which is bridged at mile 27 and followed southward for 2 miles. The road then swings abruptly north to encircle the narrow ridge up which Merj Ayun is built. It joins Route 2 at mile 35, and leaves it beyond Merj Ayun at mile 39, resuming its south-east direction. It crosses the upper Jordan valley and works its way round the southern end of Hermon, passing Baniyas (mile 50) at the foot of the long dorsal ridge (1,000 inhabitants; Sunni Moslems). From Baniyas the gorge of the Wadi Saareh is climbed for 7 miles to the level Jaulan plateau, 2,000 feet above. This is traversed almost due south to Kuneitra, at mile 65 (*see* p. 227), the junction for Route 4 from Jisr Benat Yacub to Damascus.

Beyond Kuneitra the road strikes south-east across the undulating and stony plateau, passing through or near several small Circassian villages, and crossing various wadi beds by small bridges, to the small town of Nawa at mile 90 (inhabitants 6,000). Seven miles

beyond, the perennial Nahr el Ehrer is crossed to Sheikh Meskin at mile 97, the junction for Route 3.

Beyond Sheikh Meskin the road starts to rise gently towards the Jebel Druse, crossing the Damascus–Deraa railway at the hamlet of Ezraa Station. Passing through scattered Druse villages the road ascends gradually to Suweida at mile 125, the capital of the Jebel Druse province (*see* p. 218), from which local roads and tracks radiate over the Druse mountain.

Total distance 125 miles.

Sidon–Merj Ayun . .	38	miles.
Merj Ayun–Kuneitra . .	27	,,
Kuneitra–Suweida . .	60	,,

Route 6. Beirut–Shtaura–Damascus

This road crosses the Lebanon by the pass of Dahr el Beidar and the Anti-Lebanon by a series of valleys leading to the Zebdani depression. It follows the railway fairly closely across the Lebanon, leaves it in the Bekaa, and rejoins it only in the lower part of the Zebdani depression. This is the only all-weather road—wide enough for a dual carriage way—linking the coast with Damascus. The gradients in the mountainous sections are frequently 1 in 10, but generally present no serious difficulties. The pass of Dahr el Beidar is occasionally blocked by snow, but can usually be cleared within three days. There are no bridges over rivers or railways of any size, except the Litani bridge, which is built of steel and concrete and 66 feet long. Other minor bridges are of stone or concrete. (Plates 138–9).

Itinerary

Leaving Beirut by the Avenue de Damas the road mounts gently to Hasmiyeh (mile 3). Here it starts to climb the high ground to the south of the Nahr Beirut. It follows this high ground along a series of hogs-backs, often running along the crests at a distance of 1½ or 2 miles from the Nahr Beirut and its main tributary the Nahr el Meten past Aley at mile 12 (*see* p. 221), which it skirts on the north to Bhamdun station (mile 15). Here at 3,350 feet the rich cultivation which covers the lower hills becomes more scanty; though corn and vines are still grown, the ground is bare and stony and there are no trees. The road continues high above the deep valley head of the Nahr el Meten, but well below the crests, which here rise to 4,800



PLATE 138. *Main road from Beirut to Damascus in Lebanon*



PLATE 139. *Beirut–Damascus road and railway in Rabweh gorge*

PLATE 140. *Camels on Baalbek–Damascus route through Anti-Lebanon*



PLATE 141. *Tripoli–Baalbek road in Lebanon*

feet, to Ain Sofar at mile 18. Three miles beyond, the road starts to enter the pass of Dahr el Beidar, which lies between the great mass of Jebel Keniseh to the north and Jebel Baruk to the south. The pass is followed for 2 miles to its summit at 5,089 feet, a climb of only 800 feet in 5 miles. From the pass the descent is rapid and steep, with gradients of 1 in 10, to the Bekaa at Shtaura village (mile 32), the junction with Route 2 and the place where road and railway part company.

From Shtaura the road cuts south-east straight across the Bekaa over several streams, including the Litani, beyond which it turns south to approach the Anti-Lebanon foothills. It crosses the Anti-Lebanon in a general south-easterly direction to the main Barada valley by a series of deep narrow valleys—first the Wadi Harir, from the head of which a low col leads to the village of Jedeidet Yacub in the Wadi Karn valley at mile 49. The road descends this for 7 miles, makes a precipitous crossing to the Wadi el Aura valley, from which it climbs to the plateau of Sahel es Sahra (mile 63), which it crosses in a straight line for 4 miles to the junction with Route 8 and to the Barada valley at El Hameh (mile 68; inhabitants 420), where it rejoins the railway. Thence it descends past Dummar (mile 71; 420 inhabitants) and through the Rabweh gorges, crossing and recrossing river and railway, to the oasis and city of Damascus (*see* p. 207, Plate 139) at mile 77.

Total distance 77 miles.

Beirut–Shtaura . . .	32 miles.
Shtaura–Damascus . .	45 ,,

Route 7. Beirut–Antelias–Zahleh

This devious road follows the west–east ridges which flank the Nahr el Kelb to reach a pass in the central Lebanon above Zahleh and the Bekaa. It serves numerous hill villages and summer stations. It is wide enough for two streams of traffic and has a bitumen and macadam surface for the first 18 miles, then deteriorates through the pass to a rough, single carriage-way. There are numerous small stone or concrete bridges and culverts over streams. (Plate 137.)

Itinerary

Leaving the coast road (Route 1) at Antelias, 3 miles north of the bridge over Nahr Beirut, the road immediately starts to climb steeply and steadily with many detours up a mountain spur which forms the

south side of the Nahr el Kelb valley. The road winds below the crest past Ain Alak (mile 10) through vineyards to Bikfaya (mile 12), which stands at 3,100 feet above the Kelb valley and is famous for grapes and silk (1,200 inhabitants; Maronites). From Bikfaya the road climbs steeply up to a west–east ridge which is an outlier of Jebel Zahrzur, a component of the central massif. This ridge is followed eastwards through Dhur Shueir (1,400 inhabitants) to Mruj (mile 17) on the lower slopes of Jebel Zahrzur itself. The road bends south-east round the end of this mountain through the vineyards of Antura (mile 21), and along its southern flank. From Antura it climbs, sometimes with gradients of 1 in 10, through country that is barren and denuded except for a few poplars and rhododendrons, to Mejel Tarshish (mile 24), beyond which it turns south, crossing numerous small ravines and valley heads below the main north–south ridge of the Lebanon, to the pass between Ain Hazir (the southern end of Jebel Sannin) and Jebel Keniseh. From the pass (mile 31) the road descends steeply down the flank of Ain Hazir, with many detours, for 10 miles to Zahleh (*see* p. 233), just above the Bekaa.

Total distance 41 miles.

Route 8. TRIPOLI–AMIUN–BSHARREH–BAALBEK–ZEBDANI–DAMASCUS

This is the main route from Tripoli across the Lebanon by the Col des Cèdres to the Bekaa and thence across Anti-Lebanon by minor valleys, leading to the Zebdani depression, which is followed, often side by side with the Beirut–Damascus railway, to Damascus. The road averages 14 feet wide to Baalbek, with a metalled or asphalted surface. Beyond Baalbek to Zebdani it has a gravel fair-weather surface; from Zebdani to Damascus it is a metalled double carriage-way (Plate 140). There are numerous small concrete bridges and culverts, not exceeding 60 feet.

Itinerary

The road to Amiun leaves the coast road $1\frac{1}{2}$ miles south of Tripoli, follows the high ground above the Nahr el Barsa or Kura south to its broad upper valley (Fig. 59, Plate 141), where it crosses the gentle lower slopes of Jebel Tarfush to Amiun (2,200 inhabitants; Greek-Orthodox), which lies at 1,320 feet at the edge of forest and olive-groves. The road then climbs for 3 miles to Kesba (1,200 inhabitants; Greek-Orthodox), built at the foot of Jebel Ain Akrein. From this point the road commences to rise steeply above the narrow valley of

the Abu Ali, climbing 3,000 feet by a succession of steep hairpin bends to Hadet el Jubbeh at mile 25 (795 inhabitants; Maronites). Beyond this the road descends for 8 miles past Hasrun at mile 30, an important summer station (1,500 inhabitants; Maronites) built at the edge of the cliffs which overhang the Abu Ali valley, to the Nahr

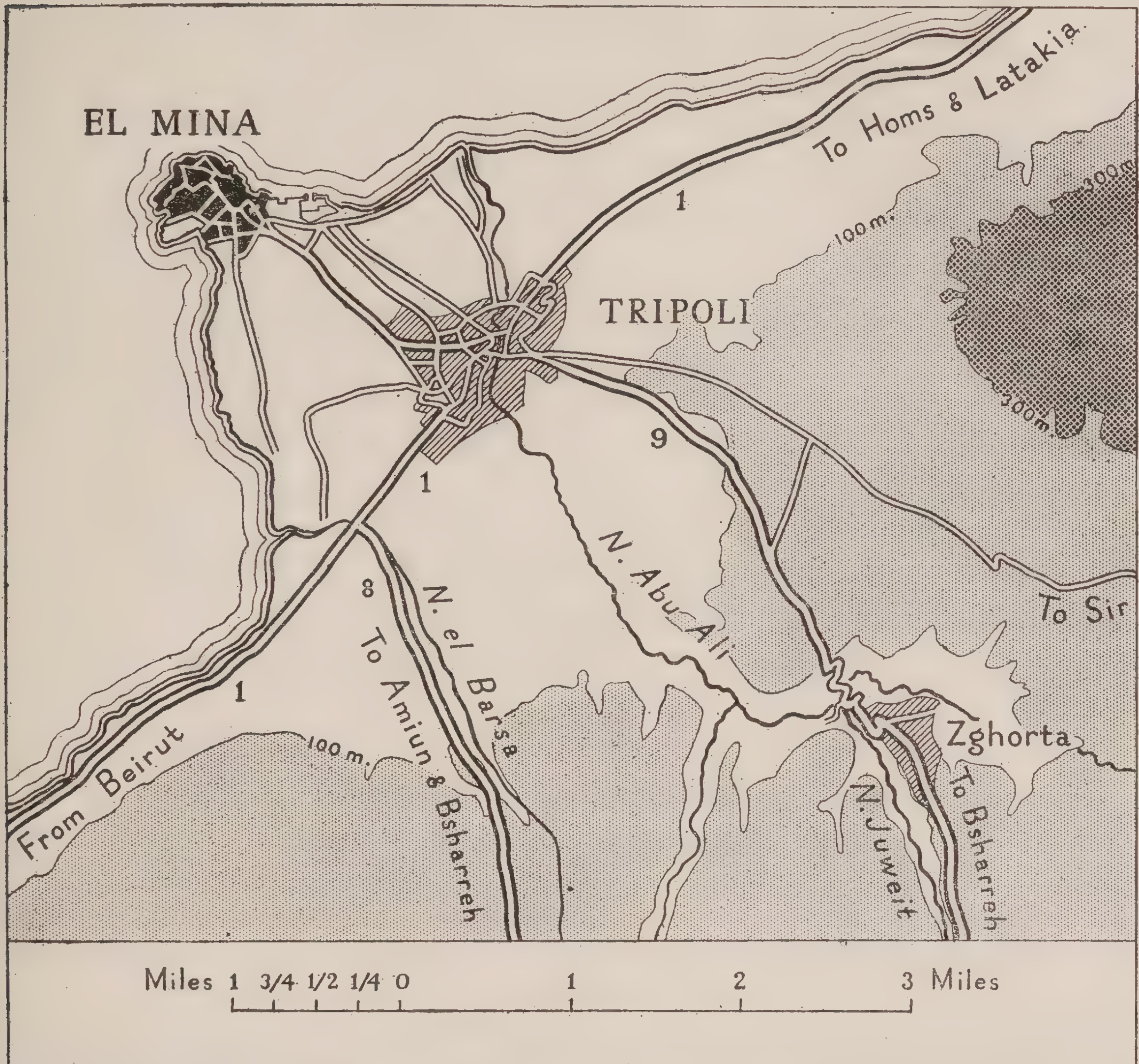


FIG. 59. *Road exits from Tripoli*

Abu Ali, which it crosses, continuing to Bsharreh at mile 39 (altitude 4,620 ft.).

From Bsharreh a new road has been constructed which winds steeply for 10 miles up to the Col des Cèdres (8,745 ft.) and down to Ainata at mile 58 (600 inhabitants); the road has many steep bends and is narrow in this section. From Ainata the road descends the lower eastern slopes of Mount Lebanon for 9 miles to Deir el Ahmar on the edge of the Bekaa (1,147 inhabitants; Maronites). It then strikes south-east across the Bekaa for 4 miles, crosses the

Rayak–Aleppo railway, and reaches Baalbek at mile 71 (*see* Chap. VIII, p. 221).

From Baalbek the road leads south-west through the Bekaa for 7 miles along Route 2, turns east, and rises gently up the mountain slopes which separate the Bekaa from the Maarabun valley to the col of Ain Bunaya at mile 84. Thence it descends to the deep and narrow Maarabun valley, which it follows for 4 miles to its confluence with the Wadi Yafufeh. This it ascends (with the Beirut–Damascus railway) in a south-westerly direction past Serghaya (mile 91, 800 inhabitants) to its source, and the watershed (4,600 ft.) is crossed to the Barada valley. The latter is followed down the eastern slopes of Jebel Sheikh Mansur to Zebdani at mile 99, at the entrance of the plain of Sahel Madaya (*see* Chap. VIII, p. 234). From Zebdani the road runs south for 8 miles through the plain to Et Tekkiyeh, where the mountains close in, and the valley turns abruptly to the east. Beyond Tekkiyeh the road crosses to the south bank of the Barada and continues on this side of the valley past many small villages to Ain Fijeh at mile 113, whose orchards, gardens, and vineyards are watered by one of the most important springs of the Barada. Here the road turns south through Jedeideh el Wadi at mile 118, 2 miles beyond which it joins Route 6 from Beirut, reaching Damascus at mile 130 (for town *see* p. 207).

Total distance 130 miles.

Tripoli–Bsharreh . .	39	miles.
Bsharreh–Baalbek . .	32	,,
Baalbek–Damascus . .	59	,,

Route 9. TRIPOLI–ZGHORTA–BSHARREH–BAALBEK

This is an alternative to Route 8 between Tripoli and Bsharreh, which makes use of the tributaries of the Nahr Abu Ali to cross the lower slopes of the Lebanon, and serves several summer stations. The road has a metalled surface, asphalted in places, 12 to 15 feet wide. There are several masonry or concrete bridges 20–80 feet long, and at Aito there is a double span bridge 180 feet long, across a ravine.

Itinerary

The road strikes south-east from Tripoli across low hills covered with olive-trees to the valley of the Nahr Juweit and to Zghorta at mile 3, a large village built on a ridge above a ravine (Fig. 59, 6,000 inhabitants; Maronites). Beyond Zghorta the road runs south, crosses

to the west bank of the Juweit at mile 6, and follows the high ground above it for 5 miles to Kfarfu, at 1,500 feet. Thence it climbs steeply, with many hairpin bends, up the ridge separating the Juweit from the Nahr Abu Ali, and past several summer stations including Aito (mile 15), ascending 3,300 feet in 9 miles to Ehden at mile 20, which overlooks a tributary of the Abu Ali valley. Beyond Ehden the road, descending slightly, rounds the valley head of this stream (the Amubin), works its way round the flank of Jebel Mar Elias, and follows its southern side, high above the gorge of the Abu Ali (here called the Kadisha), past the small village of Hadshit (mile 27) to Bsharreh at mile 32. Hence Route 8 is followed to Baalbek.

Total distance 64 miles.

Tripoli–Bsharreh . .	32 miles.
Bsharreh–Baalbek . .	32 ,,

Route 10. Tripoli–Tell Kalakh–Homs

This is the only west–east road in Syria which follows an easy natural route from the coast to the interior. It crosses the plain of Akkar and climbs over spurs of the Ansariyeh hills to the plain of Homs. The road has a modern all-weather surface and averages 15 feet wide. There are several small bridges over streams and two larger, a modern steel truss and concrete bridge 150 feet long over the Nahr el Kebir, and an old stone bridge and causeway over the Orontes. The railway is followed at an irregular distance and is repeatedly crossed by level crossings.

Itinerary

For the first 13 miles the coast road (Route 1) is followed north from Tripoli to a junction a mile beyond the Nahr Arka. Thence the road crosses north-east over the plain of Akkar past Abudiyeh to the bridge over the Nahr el Kebir (mile 22), beyond which it follows a tributary valley of the Kebir through low hills to Tell Kalakh at mile 33 (*see* above p. 233). Beyond this village the road descends to the Kebir again and the plain of Bukeiah, cut by numerous watercourses, which it crosses to a broad outlying spur of the Ansariyeh, over which it passes by a gentle ascent to Kizlakhir (mile 46) at the west end of the plain of Homs. The road follows the northern edge of the plain, still rising gently for 10 miles to Khirbet et Tin (mile 56), whence there is an extensive view over the lake of Homs. Beyond, the road descends gradually to the Orontes, which is crossed at mile 61, and

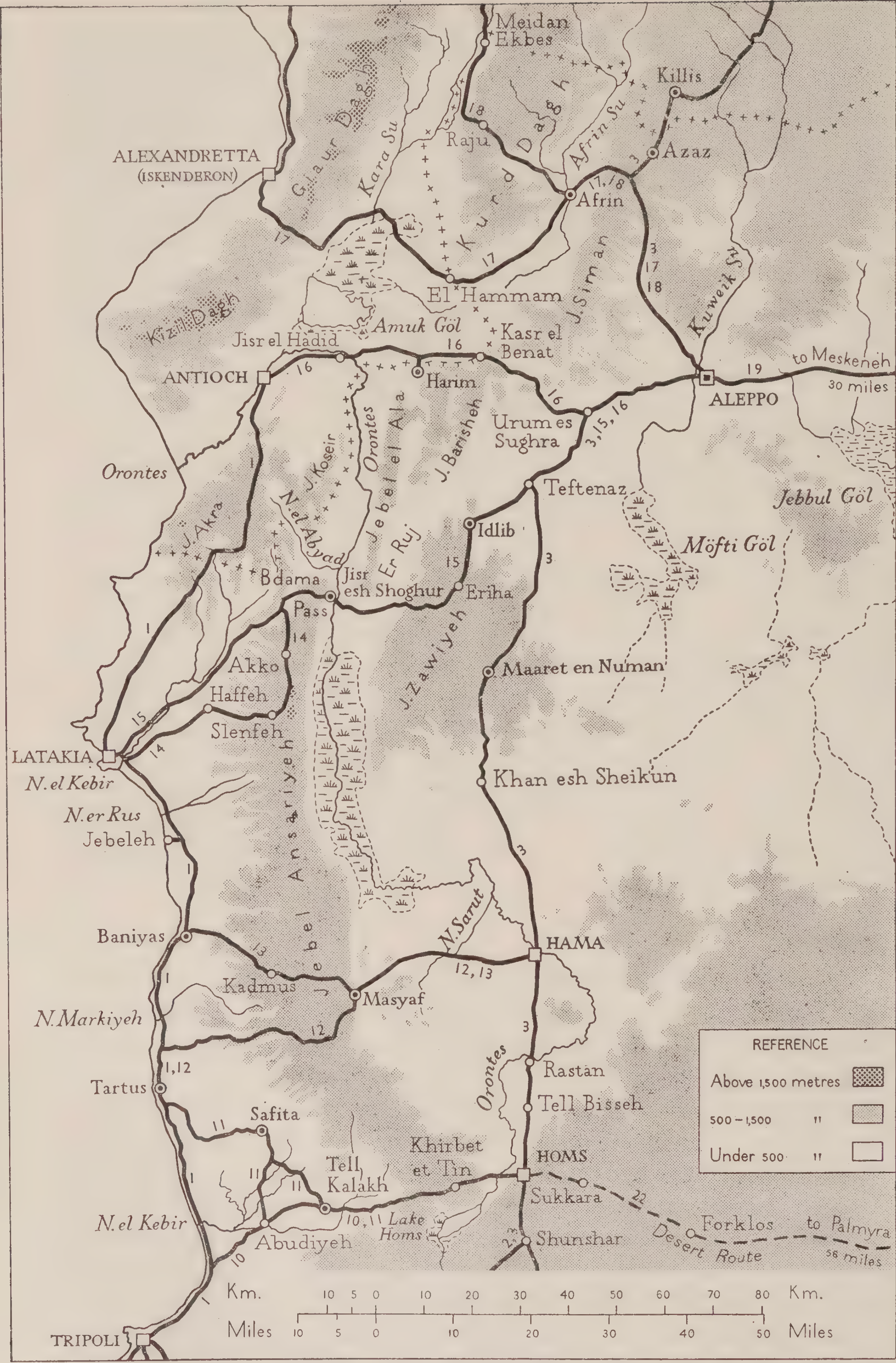


Fig. 60. *Roads of northern and central Syria*

passes for 4 miles through gardens to enter Homs near the railway station (*see* p. 213).

Total distance 65 miles.

Tripoli–Tell Kalakh . .	33	miles.
Tell Kalakh–Homs . .	32	,,

Route 11. Tartus–Safita–Tell Kalakh–(Homs)

This road links the small port of Tartus south-east to Route 10 at Tell Kalakh, crossing the low southern foothills of the Ansariyeh. The road has a metalled surface and is 10 to 12 feet wide for the first 3 miles, after which it deteriorates to a rough, single carriage-way. Small streams are crossed by iron and concrete or stone bridges, of which the largest is a triple-arched stone bridge over the Nahr Abrash.

Itinerary

The road leaves Route 1 a mile south of Tartus and runs for 9 miles through gently undulating country rich in cereals and olive-groves. It then turns east past Beit Shalluf and climbs a series of shallow valleys and broad hills through a wooded landscape to the small town of Safita on the south slope of a wide ridge, at mile 18 (3,500 inhabitants; *see* above p. 231). From Safita the road turns south and winds down a long ridge covered with terraces of olive-trees to the Nahr Abrash, at mile 21. Beyond this it turns south-east through the low foothills flanking the east edge of the plain of Akkar, past several small villages, to Tell Kalakh at mile 33, where it joins Route 10, which is followed to Homs.

An alternative route, wider and better surfaced, branches 2 miles south of the Abrash, going south-west across the plain of Akkar to Route 10 at Abudiyeh.

Total distance 65 miles.

Tartus–Tell Kalakh . .	33	miles.
Tell Kalakh–Homs . .	32	,,

Route 12. Tartus–Masyaf–Hama

This route follows above a lateral valley to the main dorsal ridge of Jebel Ansariyeh, which is crossed by high passes. The road has a rough surface, sometimes of gravel, and is up to 16 feet wide. Streams are forded, not bridged.

Itinerary

The coast road is followed for 5 miles north of Tartus, when the road turns off eastward and climbs past the village of Dueir Taha at mile 8 up to the basaltic plateau of Sauda, above the northern branch of the Nahr Hussein. The upper slopes of the hills which flank this valley are followed eastward through Sheikh Bader at mile 23, an Alawi village, 6 miles beyond which the road begins to descend to the valley which is crossed at Wadi el Ayun, a village surrounded by mulberry groves (mile 32, 1,000 inhabitants; Alawis). After fording the river the road mounts the southern slopes above a secondary valley to Ain el Beida at mile 35, where it turns north, working round the valley-head on to the flank of the central Ansariyeh ridge, which is followed for 4 miles northward to Resafi village. Beyond Resafi the road breaks north-eastward through the main ridge by a narrow pass, high above a ravine, between two peaks, and descends steeply to Masyaf at mile 42 (*see* p. 228). Route 13 continues to Hama.

Total distance 70 miles.

Tartus–Masyaf . . .	42 miles.
Masyaf–Hama . . .	28 ,,

Route 13. Baniyas–Masyaf–Homs

This road crosses the main Ansariyeh ridge, following a lateral valley, north of Route 12. It is the best of the cross-country routes; though steep and tortuous, and wide enough only for one traffic stream between Baniyas and Masyaf, it has an all-weather macadam surface and numerous crossing-places. There are stone culverts over streams and a five-arched bridge over the Nahr Sarut, 96 feet long.

Itinerary

The road branches off Route 1 half a mile north of Baniyas and climbs up to the narrow ridge—almost a razor-edge—which separates the Jobar valley to the north from a number of minor valley-heads to the south. This ridge is followed for 10 miles along its crest, 1,600 feet above the Jobar, to Hattaniyeh village, south of the road. Beyond Hattaniyeh the ridge broadens till Kadmus is reached at mile 18. The village (3,000 inhabitants; Ismailis) is dominated by a flat-topped hill to the north, on which stands a castle. The road climbs over this hill and continues above the Jobar valley, making a series of detours round the heads of side valleys, till the main Ansariyeh ridge is reached and crossed by a very short col at mile 26. The road winds steeply

eastward down a wooded valley, turns south, and crosses the lower ends of a number of parallel valleys to Masyaf (mile 34, 3,000 inhabitants; Ismailis, *see* p. 228) at the foot of the Ansariyeh, where Route 12 comes in from Tartus.

The road continues east-north-east over low hills for 17 miles to the Nahr Sarut, beyond which it crosses the plain of Hama, here poor and badly cultivated, and enters the city at mile 62 past the railway station.

Total distance 62 miles.

Baniyas–Masyaf	. .	34 miles.
Masyaf–Hama	. . .	28 ,,

Route 14. LATAKIA–SLENFEH–JISR ESH SHOGHUR

This devious route across the Ansariyeh makes use of the Nahr el Kish valley and the passes of Ain el Beida and Nebi Yunes. From Latakia to Haffeh the road is 12 feet wide with a modern surface; between Haffeh and Route 15 it narrows to a single carriage way with passing-places, and has a metalled surface. The only considerable bridges are over the Kebir and the Kish (84 ft. long).

Itinerary

This road leaves Route 1 3 miles south of Latakia (Fig. 61), and follows the south side of the Nahr el Kebir valley for 2 miles before turning north-east up the tributary valley of the Nahr el Kish. For 8 miles the valley is wide and well cultivated, but then begins to narrow. The road crosses the river four times before reaching El Meten (mile 16), whence it climbs gently up to the hills dividing two branches of the Kish to Haffeh at mile 18 (1,120 inhabitants; Moslem and Greek-Orthodox). Beyond Haffeh the road follows the crests of a series of east–west hogs-backs for 11 miles to Slenfeh, a summer station and official summer residence of the Alawi Government (altitude 3,960 ft.). After Slenfeh the road works round a series of valley-heads and crosses the pass of Ain el Beida (4,950 ft.) to the main chain of the Ansariyeh, 6,000 feet above the Ghab; this is followed north-north-east along the ridge for 3 miles to the rugged pass of Nebi Yunes (4,620 ft.), between two detached peaks; the col is overhung by heights which tower 800 feet above it. From here the road descends by a series of north–south ridges, forming part of the main Ansariyeh, and winds down steeply through wooded country past Akko (mile 41) and

Kneddeh (mile 46) to the junction with Route 15 at mile 49 on the northern flank of the massif, 2 miles below the top of the Bdama pass.

Total distance 65 miles.

Latakia–main road . .	49 miles.
Main road–Jisr esh Shogur	16 ,,

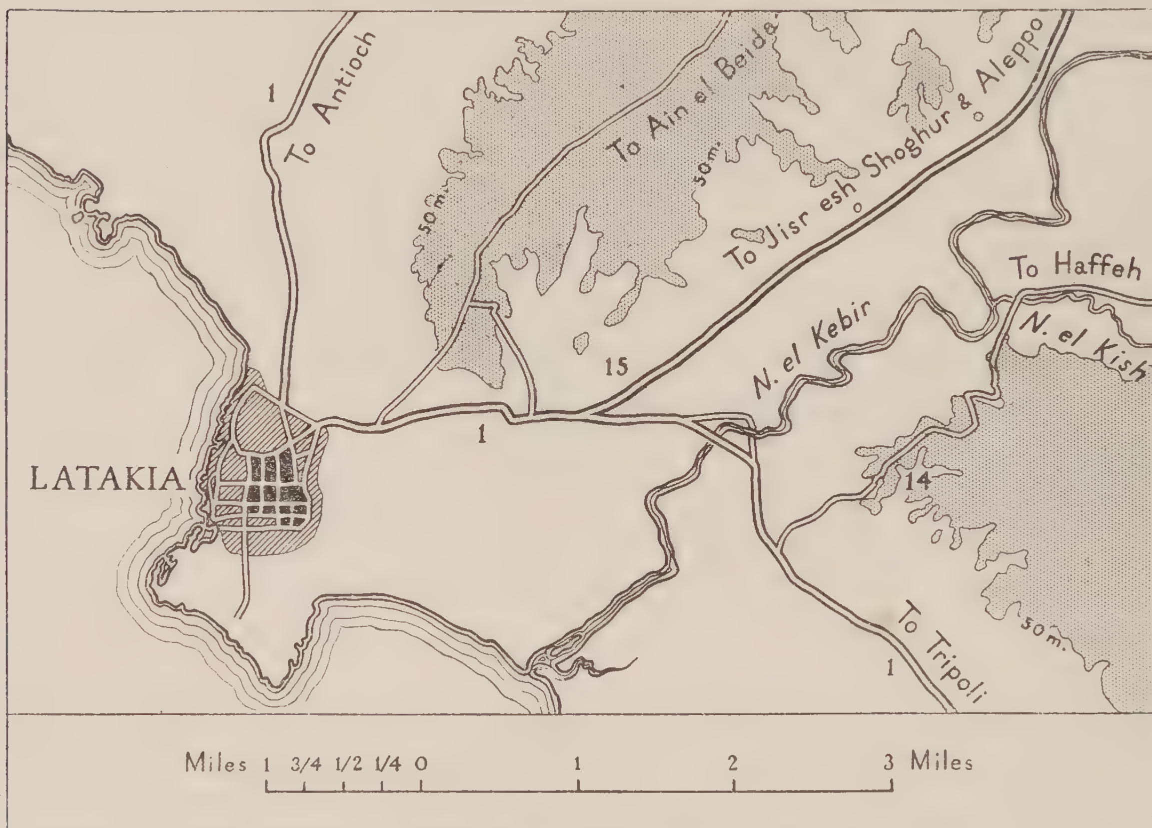


FIG. 61. *Road exits from Latakia*

Route 15. LATAKIA–JISR ESH SHOGUR–ALEPPO

This road uses the narrow valley of the northern Nahr el Kebir to penetrate the Ansariyeh mountains to the Orontes valley, and then crosses Jebel Zawiyeh to the Aleppo plain. The western section is mountainous with narrow gorges; east of the Orontes the route is easy. The road has a modern all-weather surface and is wide enough for two streams of traffic. There are two large bridges, one of two concrete spans of 132 feet each at mile 15, over the Nahr el Kebir, and a second, of three spans of 60 feet each, over a tributary at mile 35. The Orontes bridge has 10 stone arches and is 100 feet long.

Itinerary

The road follows Route 1 for 3 miles east of Latakia, then turns

north-east and follows the west bank of the Nahr el Kebir along the valley. It crosses the river at mile 15, leaving the valley and cutting over low hills to rejoin it at mile 22. Five miles beyond, the valley closes in till the river becomes a torrent, flowing through gorges (mile 31) which the road follows, passing from bank to bank as it climbs to the col of Bdama at mile 39. This is the highest point and is the watershed between the Kebir and the affluents of the Orontes. Beyond the col the road descends through a defile, formed by a tributary, to the main valley of the Nahr el Abyad (mile 42), from which it turns sharply south-east to cross the flanking hills, descending by a series of hairpin bends to the Orontes valley and Jisr esh Shogur (6,000 inhabitants; Moslem) at mile 53. Thence the road crosses the Orontes, winds south round Jebel el Ala, turns north-east to cross the Er Ruj depression, climbs by a shallow valley over Jebel Zawiyeh and descends to Eriha on its eastern slopes at mile 74, a village surrounded by market gardens and olive-groves (6,000 inhabitants; Moslem). From Eriha the road turns north and gradually descends for 9 miles through an undulating countryside fertile in olives, figs, pomegranates, and vines to the town of Idlib (population 12,000; Moslem; *see* p. 225). Beyond it continues north-east across the Aleppo plain and joins the Homs–Aleppo road (Route 3) at Teftenaz (mile 94), which is followed to Aleppo for 28 miles.

Total distance 122 miles.

Latakia–Jisr esh Shogur	.	53 miles.
Jisr esh Shogur–Aleppo	.	69 ,,

Route 16. Aleppo–Kasr el Benat–Antioch

This route crosses the south end of Jebel Siman to the plain of Antioch, and links a network of local tracks in northern Syria to Aleppo. It has an all-weather stone surface and is 29 feet wide. There are no important bridges in the Syrian section.

The first 16 miles are westward along Route 3 to Urum es Sughra, beyond which the road gradually climbs up to a low pass between Jebel Siman and a northern spur of Jebel Barisha, and crosses a broad plateau to the Syrian frontier at Kasr el Benat (mile 33). Thence it descends by the defile of the Wadi Ain Delfi to the Amuk plain, past Yenişehir (mile 40), and on to the Orontes crossing at Jisr el Hadid, a stone and concrete bridge 198 feet long (mile 52); thence the river is skirted to Antioch (mile 66).

Total distance 66 miles.

Aleppo–Syrian frontier	.	33 miles.
Syrian frontier–Antioch	.	33 ,,

Route 17. Aleppo–Afrin–Alexandretta

This route crosses the northern end of Jebel Siman and follows the Afrin Su valley to the Amuk plain, whence the Giaur Dagh range is crossed to Alexandretta. There are no large bridges in the Syrian section.

For the first 28 miles Route 3 is followed northward to the junction for Killis. Here the Afrin road, following the Aleppo–Meidan Ekbes railway, continues north-west to a low col which leads across Jebel Siman to a tributary valley of the Afrin. This is descended to Afrin village at mile 41 (800 inhabitants; Moslem and Armenians). After crossing to the north bank of the Afrin the road runs directly south-west through the broad valley between the Kurd Dagh and Jebel Siman, passes the Syrian frontier post of El Hammam (mile 62), and crosses a low southern spur of Kurd Dagh to the Amuk plain. Round this it circles to the north and finally crosses the Giaur Dagh by the Beilan pass to the coast at Alexandretta.

Total distance 107 miles.

Aleppo–Afrin . .	.	41 miles.
Afrin–Alexandretta .	.	66 ,,

Route 18. Aleppo–Afrin–Meidan Ekbes

This road crosses the Kurd Dagh by the same route as the railway, to which it provides an alternative. But between Afrin and Meidan Ekbes it is only a rough-surfaced track, wide at first and narrowing between Raju and Meidan Ekbes. There are numerous small iron and stone bridges, floored with railway sleepers.

Route 17 is followed to Afrin (mile 41), beyond which the road turns north-west across high ground to the valley of the Kuetbi Deresi. This is followed upstream side by side with the railway through the narrow Ak Dereh defile, over a mile long, to Raju (mile 61), one mile beyond which the road leaves the railway and breaks through by a tunnel to the upper valley of the Kara Su. It follows the valley upstream, rejoins the railway at mile 69, and runs side by side with it to Meidan Ekbes.

Total distance 74 miles.

EASTERN SYRIA

Route 19. ALEPPO–MESKENEH

This road is the only metalled motor-road crossing the steppes from western Syria to the Euphrates. The road averages 15 feet wide; there are culverts or small bridges over wadis.

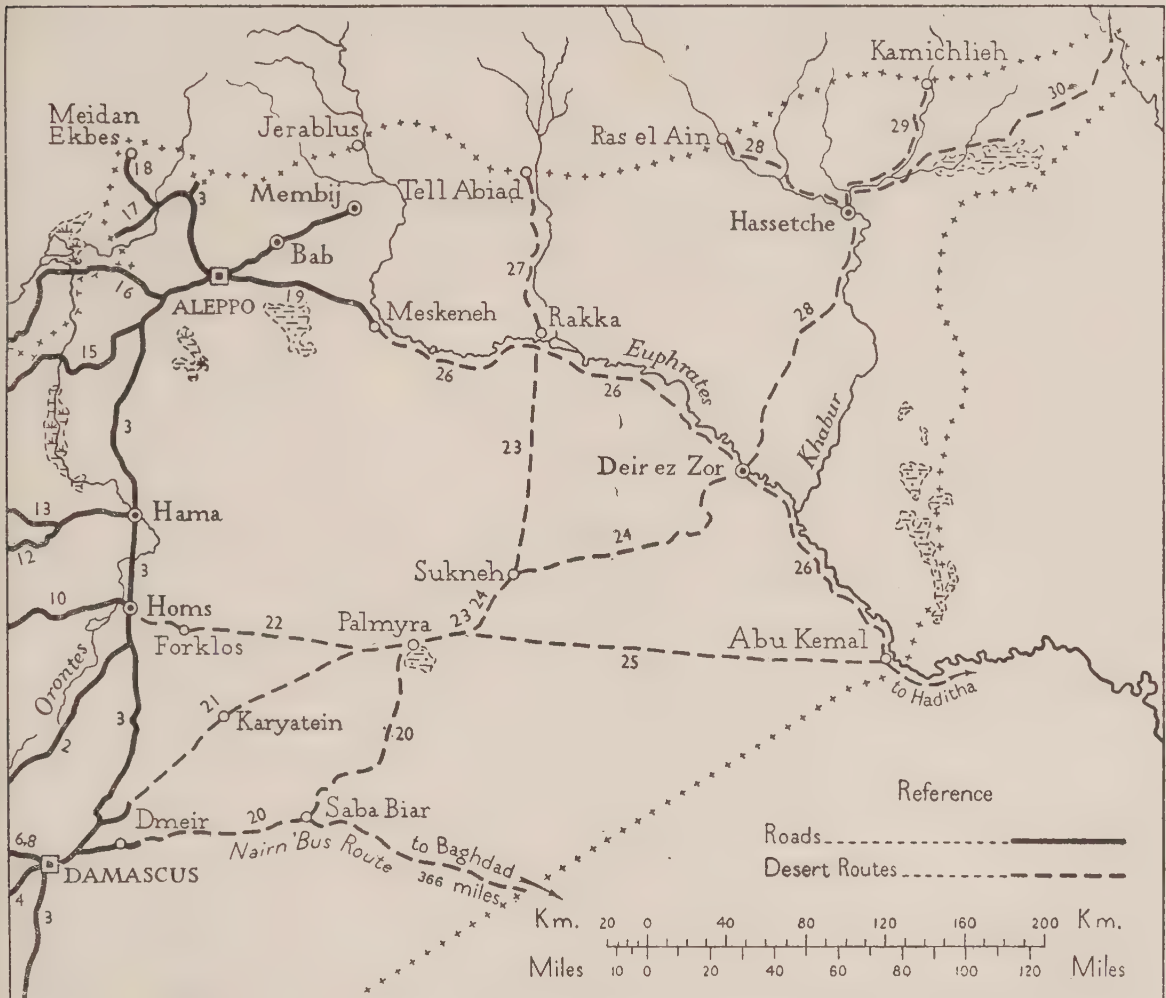


FIG. 62. *Roads of eastern Syria*

The road leaves Aleppo by Rue de Mohammed Bey and passes through fruit gardens for 5 miles until it reaches the airfield at Neirab. It continues through monotonous rolling steppes, mostly cultivated but bare of trees, and serves numerous small villages on or near the route. It passes 6 miles north of the Jebbul Göl, and after Khan esh Shaar (mile 51) the road starts to descend to the Euphrates, which is reached at Meskeneh.

Total distance 58 miles.

Route 20. Damascus–Saba Biar–Palmyra

This route crosses the Hamad south of the third Kalamun ridge and its north-eastern extensions.

Route 3 is followed through the oasis, beyond which the road turns east-north-east to Dmeir, at the foot of Jebel Dmeir (mile 25), which is skirted past Khan Abu Shamate (mile 37); thence the route runs through a region of salt marshes succeeded by scrub with rock outcrops to Saba Biar (mile 89), which is the military post of Descarpentries, with water and an airfield, and the junction of the Nairn route south-east to Baghdad. Route 20 swings north and east round the rugged ridge of Tarag el Alab to the well of Bir el Hilianiyeh and continues almost straight east-north-east to Palmyra (*see* p. 230), passing through another region of salt marshes before reaching the village.

Total distance 164 miles.

Route 21. Damascus–Karyatein–Palmyra

This route crosses the Hamad north of the third Kalamun ridge to the Ed Dau depression.

The road leaves Route 3 at Kuteifeh (mile 24), and crosses the barren plain between the second and third Kalamun ridges in a general east-north-easterly direction past widely separated villages to Karyatein (2,500 inhabitants; Sunnis, Syrian Catholics, and Jacobites). Thence it continues north-east along the depression of Ed Dau, which lies between the third Kalamun ridge and a line of highlands stretching between Homs and Palmyra. The summer track follows the centre of the depression; but the winter track lies 3 miles to the south of it for 6 miles, crossing ground broken by a series of wadis, then past the wells of Bir el Heir (mile 76) and Bir Tualeh (mile 87) to the well of Ain el Beida (mile 121), where the two tracks unite and are joined by Route 22 from Homs. The route continues east for 23 miles along the pipe-line and descends gently. Approaching Palmyra the hills on either side of the track form a narrow funnel—known as the Valley of Tombs—through which the road passes to the village (*see* p. 230, Plates 21, 25, 66).

Total distance 143 miles.

Route 22. Homs–Forklos–Palmyra

This route crosses the southern fringe of Jebel esh Shomariyeh to reach the Ed Dau depression (Fig. 60).

The route crosses the level, well-cultivated plain of Homs eastwards over a clay soil, which becomes sticky in the rainy season, for 9 miles to Sukkara, beyond which undulating steppe is traversed past several small villages lying in hollow pockets of cultivated land to Forklos (mile 26), south of Jebel esh Shomariyeh. From here to Ain el Beida (mile 81) there are no wells. The country is broken and barren with occasional tufts of herbage. To the north lie a series of hills, the southern offshoots of Jebel Bilaas. At Ain el Beida Route 21 from Karyatein is joined.

Total distance 103 miles.

Route 23. Palmyra–Sukneh–Rakka

This road connects Palmyra with the Balikh valley and Route 27 to the Turkish frontier. (Plate 26.)

The route from Palmyra runs north-east through undulating desert, at a distance of 4–5 miles from the western extension of Jebel Bishri, past the well of Bir Rekkeh to Sukneh (mile 46), a large village (1,500 inhabitants; Sunnis), and an old caravan station which lies near a sulphurous spring; it is surrounded to the north and south by gardens and palm-groves. Beyond Sukneh the route turns north to the well of Ain Tayibeh (mile 60), passing some distance east of a deep wadi which is dangerous because of its concealed approach. Ten miles farther is Ain el Kum with two springs, and Resafa is reached at mile 103. From Resafa the track crosses the plateau directly to Rakka through difficult country with patches of moving sand, descending to the Euphrates valley at mile 126; 4 miles beyond is the river crossing to Rakka, which is made by boat (*see* p. 231).

Total distance 130 miles.

Route 24. Palmyra–Sukneh–Deir ez Zor

This route links southern Syria through Palmyra to the routes traversing the eastern Jezireh from Deir ez Zor.

For the first 46 miles to Sukneh Route 23 is followed. At Sukneh the road turns north-east and crosses undulating desert for the first 25 miles to Bir Muheifir (a well 120 feet deep), after which there is flat desert, marked at mile 96 by the well of Bir Gabajib. The road descends and crosses the Wadi Mellah, which consists only of a few muddy pools in summer, but can render the track impassable in winter. One mile west of Deir ez Zor the road joins Route 26. An

alternative route deviates to the south between mile 83 and mile 111, passing three wells. For Deir ez Zor *see* p. 217. (Plates 67, 109.)

Total distance 136 miles.

Route 25. Palmyra–Abu Kemal

This provides a direct route from southern Syria to Iraq. The route runs east through undulating desert country, crossing many wadis, about 2 or 3 miles north of the Tripoli pipe-line. Twenty miles from Palmyra a track leads off to the pumping station T. 3. Between this point and Bir Humein (mile 80) there are several wells. In the neighbourhood of T. 3, about mile 100, the route swings away from the pipe-line to Abu Kemal (*see* p. 221).

Total distance 144 miles.

Route 26. Meskeneh–Rakka–Deir ez Zor–Abu Kemal

This route follows the west bank of the Euphrates at a distance of 2–5 miles, sometimes crossing the plateau above the river, sometimes following the valley bed. It is linked at Meskeneh to Aleppo by Route 19, and provides a through road to Iraq from northern Syria. The route has mostly a good fair-weather surface; numerous side tracks lead down to the Euphrates, which is the main source of water for travellers. (Plates 33–4, 65.)

Itinerary

From Meskeneh the route follows the valley for 5 miles, then climbs steeply to the plateau, descending at the small village of Dibsi (mile 9), beyond which the valley is followed to Abu Hureieh (mile 22), a Circassian village. Thence the plateau is crossed past Hammam (where there is a ferry) to mile 56, where the road descends to the plain and crosses several wadis to Rakka fort (mile 63), whence a ferry crosses the river to Rakka village on the north bank. This is the junction of Route 23 from Palmyra and Route 27 to Tell Abiad. Beyond Rakka the river plain, which narrows to a short defile at mile 71, is followed to Sabkha village (mile 80). The route takes a short cut across the plateau to Tibni (mile 121), whence broken country is crossed to Deir ez Zor at mile 150 (*see* p. 217). This is the main crossing of the Euphrates by a long suspension bridge (*see* Route 28) and ferry, and the junction of Routes 24 from Palmyra and 28 to Hassetche. Beyond Deir ez Zor the route crosses



PLATE 142. *Bridge over Khabur at Hassetche*

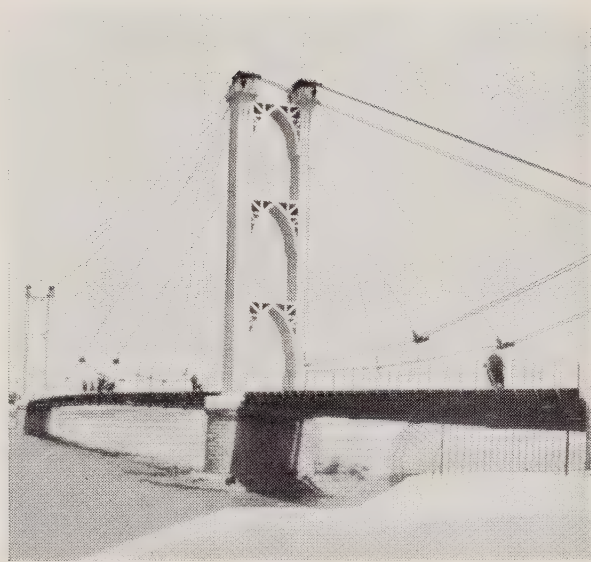


PLATE 143. *Main bridge over Euphrates at Deir ez Zor*

PLATE 144. *Ferry over Euphrates branch at Deir ez Zor*



PLATE 145. *Unmetalled mountain road from Afkeh to Akura*

the deep Wadi Mellah (mile 153) and traverses the plain to Meyadin at mile 180 (2,300 inhabitants; Sunnis and some Christians), where there is a ferry. The river-side plain, a flat monotonous desert fringed by the cliffs of the plateau, is followed to mile 198, where the road climbs to the plateau and enters Salahiyeh at mile 210 (*class.* Dura Europus: 750 inhabitants; *see* p. 114). It immediately returns to the plain, which is followed along the cliff foot for 10 miles and thence over open country to Abu Kemal at mile 234 (1,000 inhabitants; *see* p. 221), the junction with Route 25 from Palmyra. Three miles upstream there is a ferry-crossing at Sussa.

Total distance 234 miles.

Meskeneh–Rakka fort	.	63 miles.
Rakka fort–Deir ez Zor	.	87 ,,
Deir ez Zor–Abu Kemal	.	84 ,,

Route 27. RAKKA–TELL ABIAD

This route, which is impossible after rain, follows the Balikh valley to the northern frontier. From Rakka it makes a detour north-north-west round marshes on the west bank of the Balikh for 23 miles to Tell Siman, an Armenian village. Thence it follows the river through undulating steppes north to Sheragrag (mile 37), leaves the river 5 miles to the east to avoid more marshes, and reaches Khirbet Beuz village at mile 49 on a low escarpment, 8 miles beyond which is Tell Abiad.

Total distance 57 miles.

Route 28. DEIR EZ ZOR–HASSETCHE–RAS EL AIN

This route follows the Khabur valley north to Hassetche and thence north-west to the Syrian frontier. For the first 60 miles there is a firm surface, liable to deteriorate after heavy rain. Afterwards detours may be necessary at the wadis. The Euphrates is crossed at Deir ez Zor by two bridges which cross two channels. The first section has 9 masonry spans of 28 feet each; the second has 3 suspended spans of 360 feet and 2 half-spans of 180 feet. There is a girder bridge over the Khabur at Hassetche, and a small bridge over a wadi at mile 87 (Plates 142–4).

From Deir ez Zor the road goes north-east for 5 miles to a fork, whence the main track continues north-north-east through undulating steppes, following a line of telegraph posts, to Rashidiyeh on the

Khabur (mile 64). Wells are numerous in this sector. From Rashidiyeh the route continues through increasingly fertile and cultivated steppes to Hassetche at mile 92 (*see* p. 224), crosses the Khabur, and follows its north bank north-west across the Wadi Mussaf (mile 117), past Safeh village and Wadi Jirjib (mile 132), whence it rises gently for 9 miles to Ras el Ain (Resülayn) on the Turkish frontier.

Total distance 141 miles.

Deir ez Zor–Hassetche . . .	92 miles.
Hassetche–Ras el Ain . . .	49 ,,

Route 29. Hassetche–Kamichlieh

This route follows the Jagh Jagh, a tributary of the Khabur, in a general north-east direction. The surface is good except at wadi crossings, which become impassable in bad weather.

The road goes north from Hassetche for 7 miles to the confluence of the Wadi Awaj with the Jagh Jagh, whence it turns east along the latter. At mile 15 there is a bad crossing over the Wadi Khanzir, and 8 miles farther the track turns north with the Jagh Jagh and crosses rough ploughland for 29 miles, rising gently as the Kurdish foothills are approached, to Kamichlieh (8,000 inhabitants; Jews, Armenians, Moslems; *see* p. 226).

Total distance 52 miles.

Route 30. Hassetche–Ain Divar (Jeziret ibn Omar)

This route crosses the Duck's Bill to the extreme north-east corner of Syria. There are bridges over some of the wadis, concrete at mile 22 and mile 48, and wooden beyond Demir Kapu. Water is from the wadis or from wells, which are fairly frequent. (Plates 37–8.)

The route runs north-east from Hassetche, across the flank of a worn-out volcano, 9 miles to the Jagh Jagh, the south bank of which is followed to Tell Brak (mile 21), where the river turns north to Kamichlieh. The route continues north-east, crossing perennial wadis at mile 22 and mile 48, and traversing roughly ploughed steppes to Sheikh Ahmad village (mile 50). The Baghdad railway is crossed 18 miles farther at Demir Kapu station, beyond which the route continues through fertile country, past several villages, for 37 miles to the Syrian frontier at Ain Divar (mile 105) on the west bank of the Tigris, 3 miles from Jeziret ibn Omar (Cizre).

Total distance 108 miles.

B. RAILWAYS

SYRIA and the Lebanon possess 832 miles of railway—546 miles of standard-gauge line (4 ft. 8½ in.; 1,435 mm.), and 286 miles of narrow-gauge (3 ft. 5¼ in.; 1,050 mm.) which include 20 miles of rack-railway[1]. The total area of the country is about 58,300 square miles (150,000 sq. km.), and at first sight the total mileage would appear to be quite inadequate. But most of Syria is semi-arid steppe or desert, with a population density of less than 25 persons per square mile, and it is in the west, in spite of its mountains, that railways have been built. The principal standard-gauge line, from Rayak to Aleppo, runs parallel to the grain of the country, in the south following the depression between the Lebanon and the Anti-Lebanon, and in the north skirting the eastern slopes of Jebel Zawiyeh. The line from Tripoli to Homs takes the gap between Jebel Ansariyeh and Mount Lebanon and is of standard gauge; but that from Beirut to Damascus has to cross the more difficult Lebanon and Anti-Lebanon, where gradients are steeper and the alinement necessitates many sharp bends. For this branch a narrow gauge was chosen and 20 miles of it had to be equipped with rack-rail. The same narrow gauge was also used in the south for the line along the deeply incised Yarmuk valley, from Samakh, on the southern shore of Lake Tiberias in Palestine, to Deraa, and likewise for the Hejaz railway in Syria from Damascus. But the new line from Haifa in Palestine along the coast to Tripoli, despite difficulties caused by the coastal mountains, is standard gauge.

The railways of Syria, all single-track lines, comprise (Figs. 63–4):

Standard gauge

(1) Main line from Rayak to Aleppo, 206 miles.
(2) Branch line from Tripoli to Homs, 63 miles.
(3) Two sections of the old 'Baghdad railway', Meidan Ekbes–Aleppo–Choban-Bey, 113 miles, and Tell Ziman–Tell Kotchek, 44 miles.
(4) Coastal line from Ras en Nakurah to Tripoli, 120 miles.

Narrow gauge

(5) From Beirut by Rayak to Damascus, 90 miles, including 20 miles of rack-rail.

[1] This includes an estimated 120 miles for the new standard-gauge line from Ras en Nakurah to Tripoli.

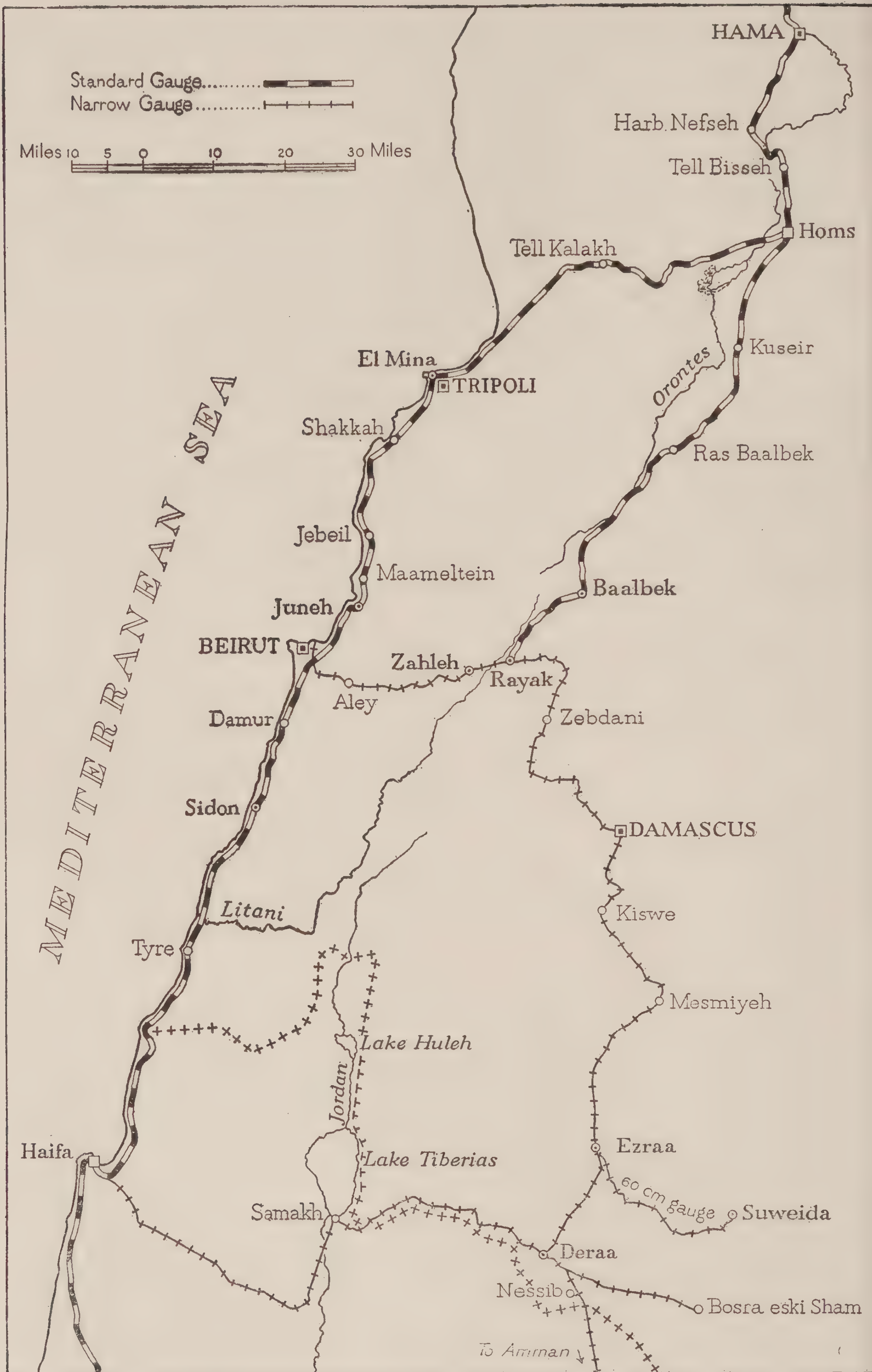


Fig. 63. *Railways of Syria south of Hama*

(6) From Damascus to Deraa, 76 miles, with branches from Ezraa to Suweida, 28 miles, and from Deraa to Bosra eski Sham, 24 miles.
(7) From Samakh to Deraa and Nessib, 54 miles.
(8) From Beirut to Maameltein (Tramways Libanais), 14 miles.

History

A French company, formed in 1865, obtained from the Ottoman Government a concession to carry passengers and goods by road

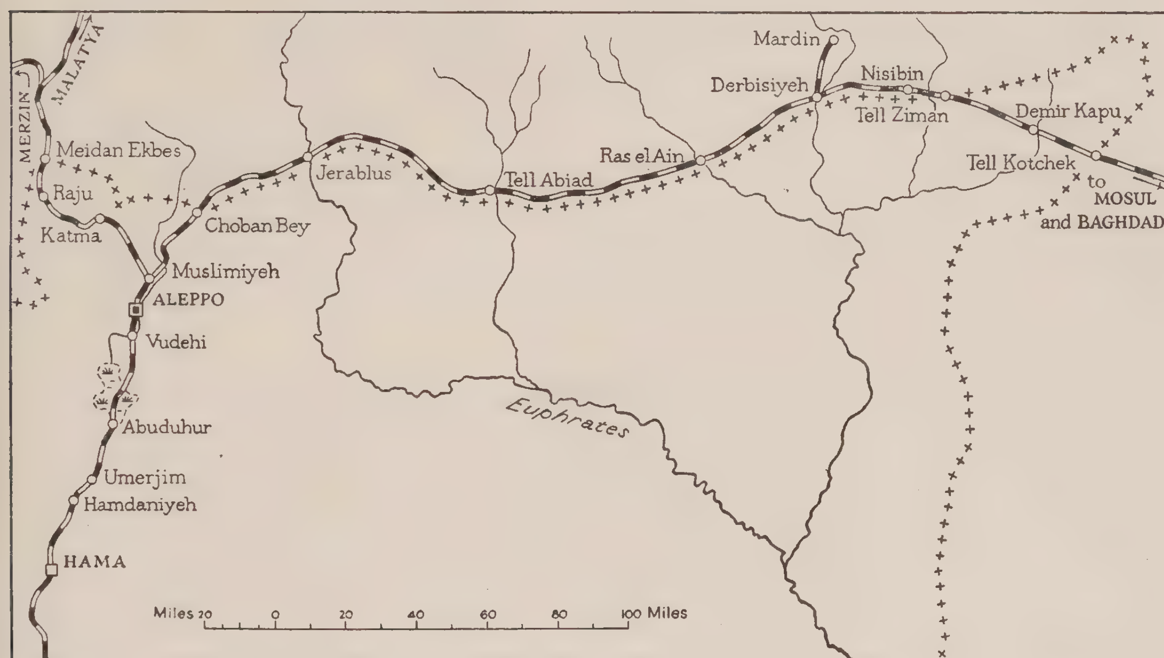


Fig. 64. *Railways of Syria north of Hama*

between Beirut and Damascus. The enterprise prospered, and it was therefore natural that railway construction should be taken up by French interests. The 'Société des Chemins de fer Ottomans Economiques de Beyrouth–Damas–Hauran' was formed in Paris in 1891, and in June of that year it secured the concession to build a narrow-gauge line from Beirut to Damascus, and thence to Mezerib in the Hauran. This was opened in August 1895, but its value was seriously impaired five years later when Sultan Abdul Hamid decided to build the 'Pilgrim' or Hejaz railway from Damascus to Mecca, the northern section of which would run parallel to and compete with the Mezerib line of the French railway. The Damascus–Amman section of the Hejaz railway was opened on 23 August 1904, and at first relied on the Beirut–Damascus section of the French line for its

outlet to the sea. The Hejaz administration, however, became dissatisfied with the arrangement, and in 1906 completed a branch line of its own from Deraa to the port of Haifa.

Meanwhile, the French company had obtained from the Ottoman Government a concession in June 1893 to build a standard-gauge line from Damascus to Homs, Hama, Aleppo and Birijik on the Euphrates (now in Turkey), with a branch to the coast. The purpose of this line was mainly strategic, hence the company was given a guarantee of receipts. Before it was completed, however, the Ottoman Government gave the concession for the 'Baghdad railway' to German interests, and the route of this line north-east of Aleppo affected seriously the prospects of the French concession. Difficulties were adjusted, and the French company, which now became the 'Société Ottomane du Chemin de fer Damas–Hama et Prolongements' (D.H.P.), built the standard-gauge railway from Rayak, on the Beirut–Damascus line, to Aleppo, which was reached in 1906. Junction was effected at the same place with the Baghdad railway in 1914. The standard-gauge line between Tripoli and Homs was opened in 1911.

The concession for the Baghdad railway was granted in 1902 to the Anatolian Railway Company, and modified in April 1903 when the 'Société Impériale Ottomane du Chemin de fer de Baghdad' was formed. That part of it now in Syria, between Aleppo and the present Syrian frontier at Meidan Ekbes and Choban Bey, was completed in 1914 and in use the following year.

Very little construction took place between 1918 and 1940. During the war of 1914–18 much of the line was worn out or destroyed and had subsequently to be repaired. Normal upkeep and some modernization of works were carried out, but the only new lines have been extensions to the Hejaz and Baghdad railways.

In 1919 the D.H.P. company resumed possession of its lines, but the Damascus–Mezerib line, which had been removed, was not worth relaying, since the Hejaz railway was parallel to it. On 1 March 1924 the D.H.P. took over the administration of the Syrian section of the Hejaz railway, namely the lines from Damascus to Deraa and from Samakh to Nessib, a total of 130 miles (narrow-gauge). Meanwhile the standard-gauge Tripoli–Homs branch, the rails of which had also been removed, was relaid and reopened on 1 October 1921.

Administration of the Baghdad railway was complicated. It crossed the Syrian boundary at two points north of Aleppo, and ran

just inside Turkish territory, from Choban Bey to Nisibin. Agreement was reached in 1922 that the whole line from Bozanti in the Çakit gorge, west of Adana in Cilicia, to Nisibin should be worked by a French company, known first as the 'Chemins de fer Cilicie–Nord Syrie', and later as the 'Société d'Exploitation des Chemins de Fer Bozanti–Alep–Nissibine et Prolongements' (B.A.N.P.). The western sections and branches were gradually acquired again by treaty or purchase by the Turkish Republic, and on 1 July 1933, when the B.A.N.P. was finally liquidated, the rest of the lines in Turkish territory passed to Turkish control. The sections from Fevzipaşa to Meidan Ekbes and from Choban Bey to Nisibin are worked by a company, the 'Cenubi Demiryollari' (C.D.), or 'Société Turque des Chemins de Fer du Sud de la Turquie', under Turkish legislation, but with French capital. The operation of the sections in Syria, from Meidan Ekbes to Aleppo, and from Aleppo to Choban Bey, which meet at Muslimiyeh, 8½ miles north of Aleppo, was taken over by a new Syrian company, a subsidiary of the D.H.P. called 'Lignes Syriennes de Baghdad' (L.S.B.), though the old title B.A.N.P. persists in local use.

In December 1933 the High Commissioner of Syria decided to complete the Syrian section of the Baghdad railway across the Duck's Bill of the Jezireh between Tell Ziman, near Nisibin, and Tell Kotchek, near the Iraq boundary. Work started on 15 March 1934 and was completed in May the following year, difficulties of climate and labour supply having been overcome. Syria and Turkey have reciprocal transit rights over the whole line eastwards from Meidan Ekbes, including the movement of troops; hence locomotives and rolling-stock belonging to the Cenubi Demiryollari have been included in the totals given below (p. 366). The section between Tell Kotchek and Mosul in Iraq, which may be said to complete the Baghdad railway, was opened in 1940.

After the campaign in 1941 the British Government began the building of a standard-gauge line between Haifa and Tripoli, thus linking Egypt, Palestine, Syria, and Turkey. By October 1942 the line was completed as far north as Beirut and it reached Tripoli in December.

Organization

Under the French mandate the High Commissioner has full jurisdiction over the railways. The State guarantees a portion of the

receipts and has the right to assume ownership and operation on the lapse of the concession.

The D.H.P. administers the Syrian railways as a whole, but the component systems are largely worked as individual undertakings. This was necessary owing to the different gauges, and the varying strength of permanent-way structure, which tend to confine locomotives and rolling-stock to the section of line for which they were constructed. As a result, the Syrian portion of the Hejaz railway is controlled from the old offices of the Chemin de Fer du Hejaz at Damascus, and the Syrian portion of the Baghdad railway from Aleppo, although the head offices of the D.H.P. Company are in Beirut. The administrative groups of lines are as follows:

Chemin de Fer du Hejaz (C.F.H.)	(Haifa) – Samakh – Deraa – Nessib, and Damascus–Deraa, with branches Ezraa–Suweida, and Deraa to Bosra eski Sham, both narrow gauge.
Chemin de Fer Damas–Hama et Prolongements (D.H.P.)	(*a*) Beirut–Damascus, narrow gauge. (*b*) Rayak–Aleppo, and branch line Tripoli–Homs, standard gauge.
Lignes Syriennes de Baghdad (L.S.B.), in co-operation with the South Turkish railway, Cenubi Demiryollari (C.D.)	(*a*) Aleppo – Muslimiyeh – Meidan Ekbes, (*b*) Aleppo–Muslimiyeh Choban-Bey, and (*c*) Tell Ziman–Tell Kotchek.

The personnel employed in 1938 was:

Headquarters	299
Maintenance and supervision of permanent way and buildings	560
Stations	441
Trains	133
Locomotive crews	216
Maintenance of locomotives and rolling-stock	267
Main workshops	781
Miscellaneous	99
	2,796

Most of the administrative staff were Frenchmen, the remainder Syrians.

The Syrian railways were efficiently run until the early thirties. Road competition then became severe and necessitated reductions in rates and fares, and also a decrease in personnel which made the previous standard of efficiency difficult to maintain.

Details of Permanent Way and Operation

Gradients and Curvature

	Percentage of track mileage Standard gauge	Narrow gauge
(i) *Gradients*		
Horizontal	29	24
Up to 5% gradient	25	17
5–10% ,,	19	18
10–25% ,,	27	31
Over 25% ,,	..	10
(ii) *Curvature*		
Straight	69	67
Radius 500 m. or over	19	8
,, less than 500 m.	12	25

Permanent Way

Rails. Type: flat-bottom (F.B.).

Weight (lb. per yd.):	D.H.P. (standard)	60
	D.H.P. (narrow)	43 and 55
	C.F.H.	43 and 50
	L.S.B.	75
Length:	D.H.P. (narrow)	32 ft. 6 in.
	C.F.H.	29 ft. 6 in.
	L.S.B.	39 ft.

N.B. On the Beirut–Damascus line fishplates (2 ft. long) rest on two steel cross sleepers, separated by a space of 1 ft. 6 in. Four bolts secure each pair of fishplates to the two rail ends. Otherwise sleepers are 3 ft. apart and 5 ft. 8 in. long.

Type of Rail Fastening. Coach screws are used on the D.H.P. (narrow gauge) and are believed to be in use throughout the Syrian Railways.

Sleepers. Steel on the L.S.B. and D.H.P. (narrow gauge); steel and wood on the C.F.H. (3 ft. apart).

Maximum Permissible Axle-loads (in metric tons)

D.H.P. (standard gauge)	14–15
D.H.P. (narrow gauge)	12
C.F.H.	10
L.S.B.	19

Standard of Maintenance. The general condition of the lines is good, but has deteriorated with road competition (cf. above, p. 364).

Signalling

French disk and square signals are used throughout the country. On the Palestine section of the Hejaz railway British semaphore signals are installed.

Locomotives, Workshops, and Water-supply

Locomotives

Line	*Number*	*Type or make*		*Date of construction*
D.H.P. (Standard)	3	0–6–0 T.	..	1922
	15	0–8–0 T.	Cail	1906
	5	2–8–0 T.	Superheater	1911 and 1938
D.H.P. (narrow)	2	0–4+4–2 T.	Mallet Compound	1906
	4	0–6–0 T.	Shunting Hauran	1894–1902
	6	0–6–0 T.	'T.L.'	1895
	5	0–6–2 T. Rack and adhesion	..	1893–1904
	4	0–6–2	..	1893
	5	2–6–0 T.	Shunting	1895
	7	0–8–2 T. Rack and adhesion	..	1906
	7	0–10–0 T. Rack	..	1924–39
C.F.H.	3	0–6–0 T.	Hohenzollern	1905
	8	2–8–0	Winterhur	1906 and 1912
	3	2–8–0	Borsig	1917
	6	2–8–2	..	1918
L.S.B.; C.D.	8 (2 L.S.B.; 6 C.D.)	0–6–0	Esslingen	1890–3
	6 (3 L.S.B.; 3 C.D.)	2–6–0	Borsig	1912
	59 (8 L.S.B.; 8 C.D.; 43 not allocated)	0–8–0	G. 8	1910
L.S.B.	2	0–10–0	G. 10	1910–13
C.D.	5	2–6–0	Cail	1905

Total: 103 on the standard-gauge lines.
60 on the narrow-gauge lines.

The number of locomotives was barely adequate for the peace-time train service, and in 1939 General Weygand ordered 50 0–8–0 locomotives of which 43 arrived. Additional locomotives for the narrow-gauge lines would be hard to obtain; the pre-war number was barely sufficient for civilian traffic.

Locomotive Depots and Repair Shops. Locomotive depots exist at:

Standard-gauge lines	*Narrow-gauge lines*
Rayak	Beirut
Homs	Moallaka
Tripoli	Deraa
Hama	Damascus
Aleppo	Samakh (Palestine)
Muslimiyeh	
Jerablus (Turkey)	

There are locomotive repair shops at:

Standard-gauge lines	*Narrow-gauge lines*
*Rayak	*Beirut
Homs	*Damascus
Tripoli	Deraa
Aleppo	
Muslimiyeh	

* Main workshops.

Since the decline in traffic the repair shops have not been used to capacity. As a result no modern equipment was installed and the old installations remained untouched.

Fuel and Oil. Until the present war coal and briquettes were burnt, the consumption (in tons) in 1938 being:

	Standard-gauge	*Narrow-gauge*	*Total*
Coal	16,000	11,000	27,000
Briquettes	2,000	14,000	16,000
Total	18,000	25,000	43,000

Consumption increased rapidly during the war, and in 1940 it was estimated that nearly 100,000 tons of fuel were used on the whole system. Wood and oil were used as alternatives, and a number of locomotives were converted to oil-burning. The consumption of lubricating oil is about 10 tons per month.

Water-supply. Water is plentiful at the principal centres, and most stations have water tanks and water columns. The sources are mainly springs in the south (Damascus, Makaren, Zeizun, &c.), wells in central Syria and in the north. Hama draws its water from the Orontes, and Homs from the Orontes canal.

Rolling-stock

Number and type

Passenger vehicles:	*Standard gauge*	*Narrow gauge*
Coaches	90	106
Brake vans	24	16
	114	122

Goods vehicles:	Standard gauge	Narrow gauge
Covered	948	283
High-sided	222	212
Bolster wagons	65	14
Flats	303	82
	1,538	591

Railcars. There are four Diesel railcars which have a maximum speed of 56 m.p.h., tare weight 27 tons, 2-phase motors of 105 h.p. at 1,500 r.p.m., and accommodate 74 passengers.

Braking Equipment. Standard gauge: compressed air. Narrow gauge: vacuum. All coaches and the majority of goods wagons are fitted.

Couplings. Standard gauge: centre screw-couplings and side buffers. Narrow gauge: centre buffer-couplings.

Carriage and Wagon Works. The repair shops for rolling-stock are at Rayak and Aleppo, for the standard-gauge lines, and Damascus and Beirut for the narrow-gauge lines.

Traffic

The amount of merchandise (in tons) transported in 1938 was:

Standard gauge	540,000
Narrow gauge	1,068,000
Total	1,608,000

Most of the merchandise transported consisted of local produce—fruit, vegetables, and cereals, in particular cereals from the Hauran to Beirut and Haifa.

The number of passengers transported in 1938 was:

Standard gauge	419,000
Narrow gauge	860,000
Total	1,279,000

Speed of Steam Trains

Route	*Maximum*		*Running speed*
Rayak–Aleppo	25 m.p.h.		20 m.p.h.
Tripoli–Homs	25 ,,		15 ,,
Aleppo–Meidan Ekbes	38 ,,		20 ,,
Aleppo–Choban Bey Tell Ziman–Tell Kotchek	44 ,,		20–25 ,,
Beirut–Damascus	22 ,, 13 ,,	Adhesion Rack	15 ,,
Damascus–Deraa	31 ,,		20 ,,
Samakh–Deraa	25 ,,		15 ,,

The introduction of railcars on the Tripoli to Aleppo service for passengers reduced the time from 9 hours to 4 hours 40 minutes. These cars also operated a weekly service from Aleppo to Tell Kotchek in 1938, and covered the 325 miles in 8 hours, including stops.

Line 1. RAYAK to ALEPPO

Rayak–Homs	81·2 miles	130·6 kilometres
Homs–Hama	35·8 ,,	57·7 ,,
Hama–Aleppo	89·1 ,,	143·4 ,,
	206·1 ,,	331·7 ,,

Junctions

Rayak is the junction with the Beirut–Damascus line; Homs that for the port of Tripoli; Aleppo that for Istanbul, Ankara, and Baghdad.

Permanent way

Gauge, standard (4 ft. 8½ in.). Rails, 60 lb. per yd.; sleepers, steel. Maximum axle load, 14–15 metric tons. Minimum radius of curves, 200 metres. Maximum gradient, 1 in 84 frequent in both directions.

Stations

Maximum distance between passing-loops, 17 km. Minimum length of loop lines at stations, 300 metres (*c.* 1,000 ft.).

Speed and capacity

Average time of passenger trains (including stops): 11 hours. Theoretical capacity of line: 12 trains, of 200 tons each, each way in 24 hours; estimated simultaneous capacity, 4 trains.

Maintenance

Locomotive depots and repair shops at Rayak, Homs, Hama, and Aleppo.

GENERAL DESCRIPTION

The first section from Rayak to Homs passes north through the Bekaa. The population here is scattered, and the railway usually passes some distance from the small towns. It was constructed primarily for military purposes, and additional sidings and passing-loops were at first laid in open country half-way between stations. These are now used as ordinary stations.

The line rises from 3,100 feet at Rayak to the watershed north of Baalbek at 3,690 feet, and then descends more gently to 1,630 feet at Homs. The Bekaa plain is gently undulating, but bounded by high mountain ridges and traversed by numerous wadis and drainage channels. For most of the way, the main Metulla–Homs road (p. 335)

runs alongside the railway, crossing it several times, or is from 1 to 3 miles distant from it.

Homs is the junction for the line to the port of Tripoli, which takes the agricultural produce from its plain to the coast. From Homs the line follows the east, or right bank of the Orontes, keeping between the river and the Aleppo road for 14 miles. It crosses the river 5 miles north of Tell Bisseh and follows the valley for another 4 miles to Harb Nefseh, but then strikes across the treeless but well-cultivated plain of Hama. Towards Hama the line rises slightly on to the edge of the plateau west of the town and overlooking the Orontes.

Three miles north of Hama the line crosses to the east or right bank of the Orontes for 4 miles, and ascends an undulating plateau as far as Umerjim, the highest point (1,432 ft.) in this section. It then descends gradually for over 43 miles to the Kuweik Su, crosses this river near Vudehi, and follows the west or right bank for about 17 miles, with a slight rise towards Aleppo (1,220 ft.).

Between Rayak and Homs no embankments nor cuttings of importance were required. The largest works are masonry bridges, 6 to 12 feet long, or small iron bridges over streams. North of Homs there are even fewer works than before, for the country is drier and there are fewer wadis and drainage channels than in the Bekaa. The only bridges of any size are those over the Orontes 14 miles north of Homs (km. 154·1) and 3 miles north of Hama (km. 193·9).

DETAILED DESCRIPTION

Km. from Rayak	*Stations and passing-loops*	*Remarks*
0·0	RAYAK	Alt. 3,100 ft. Junction with narrow-gauge lines to Damascus and Beirut. 2 PL. Transporter for transfer between gauges. Locomotive depot and repair shops. Max. grad. 12 per mille down.
1·3	RAYAK MILITAIRE	Military station. ES. (2 roads); Tbl.; coal-stack. W. (plentiful; 2 Col.). Main RpS.; MY. (Small DES., 5 roads); PL. Max. grad. 12 up.
13·0	TALIYEH	Alt. 3,263 ft. PL. only (Mil.). Max. grad. 12 up.
26·8	BAALBEK	Alt. 3,712 ft. W. (good supply; 2 Col.). PL. Station is 1 km. SW. of town (for which *see* p. 221). Max. grad. 12 down.
41·2	MAKNEH	Alt. 3,286 ft. PL. only (Mil.). Max. grad. 12 down.
52·6	..	Steel bridge over Orontes (3 spans of 17 ft.).
53·7	..	Iron girder bridge over Orontes (2 spans of 10 ft.).
54·5	..	Steel bridge (3 × 17 ft.) over Orontes.

Km. from Rayak	*Stations and passing-loops*	*Remarks*
56·5	..	Steel bridge over Orontes (3 spans of 17 ft.).
57·2	LEBWEH	Alt. 2,824 ft. PL. Water-column. Max. grad. 12 down.
72·2	RAS BAALBEK	Alt. 2,663 ft. PL. Water-column. Max. grad. 12 down.
87·8	EL KAA	Alt. 2,055 ft. PL. only (Mil.). Max. grad. 12 down.
97·6	..	Iron girder bridge (42 ft.) over Nahr Haun.
102·0	KUSEIR	Alt. 1,795 ft. PL. Water-column. Max. grad. 10 down.
117·0	KMEM (KATTINEH)	Alt. 1,712 ft. PL. Max. grad. 10 up.
130·6	HOMS	Alt. 1,633 ft. Junction. ES. (1 road); Tbl.; coal-stack. W. (from Homs canal; Col.). RpS. MY. (2 loops). For town, *see* p. 213. Max. grad. 11 down.
146·3	TELL BISSEH	Alt. 1,488 ft. PL. Water-column. Max. grad. 12 up.
154·1	..	Bridge (60 ft.+2×20 ft.) over Orontes.
158·6	..	Bridge (20 ft.+3×26 ft.) over Wadi Nefsi.
161·4	HARB NEFSEH	Alt. 1,247 ft. PL. only (Mil.). Max. grad. 12 down.
176·4	KEFRABUHUM	Alt. 1,105 ft. PL. Water-column. Max. grad. 10 up.
188·3	HAMA	Alt. 1,013 ft. ES. (1 road); Tbl. W. (supply from Orontes; Col.). MY. (2 loops). For town, *see* p. 215. Max. grad. 12 up.
193·9	..	Metal bridge (100 ft.) over Orontes.
202·3	KUMHAN	Alt. 1,082. 2 PL. Water-column. Max. grad. 12 up.
216·5	KEVKEB	Alt. 1,138 ft. 2 PL. Water-column. Max. grad. 12 up.
230·6	HAMDANIYEH	Alt. 1,155 ft. PL. only (Mil.). Max. grad. 12 up.
246·3	UMERJIM	Alt. 1,432 ft. 2 PL. Sdgs. Water-column. Max. grad. 12 down.
261·2	EL AWJA	Alt. 1,260 ft. PL. only (Mil.). Max. grad. 12 down.
273·5	ABUDUHUR	Alt. 1,162 ft. 2 PL. Water-column. Max. grad. 11 down.
286·0	TELL EJIN	Alt. 808 ft. 2 PL. Water-column. Max. grad. 11 up.
302·8	HAMIDIYEH	Alt. 996 ft. 2 PL. Water-column. Max. grad. 12 up.
317·3	..	Bridge (3×5 m.) over Kuweik Su.
318·1	VUDEHI	Alt. 1,075 ft. PL. Water-column. Max. grad. 12 up.
331·7	ALEPPO	Alt. 1,220 ft. Junction. Large MY. (7 main roads). Extensive Sdgs. Goods shed. Coal-stack. Locomotive depot, engine shed (round house). Tbl. Repair shops. Water-tower and water-columns. For town, *see* p. 211.

LINE 2. TRIPOLI TO HOMS

63·6 miles; 102·3 kilometres

Permanent way

Gauge, standard (4 ft. 8½ in.). Rails, 60 lb. per yd.; sleepers, steel. Maximum axle load, 14–15 metric tons. Minimum radius of curves, 300 metres. Maximum gradient, 1 in 50.

Stations

Maximum distance between passing-loops, 16 km.

Speed and capacity

Average time of passenger service (including stops): 5 hr. 45 min. Theoretical capacity of line: 10 trains, of 260 tons each, each way in 24 hours; estimated simultaneous capacity, 4 trains.

Maintenance

Locomotive depot at Homs, probably also at Tripoli.

GENERAL DESCRIPTION

This line from Tripoli, the second port of Syria which forms a most important economic outlet for the agricultural produce of northern Syria, takes the gap between Mount Lebanon and Jebel Ansariyeh.

The coast is followed for 10 miles to El Abdeh, close to the coastal road, but the line then strikes inland crossing several streams in the plain of Akkar. It keeps near the Tripoli–Homs road, continually crossing it; the widest divergence is east of the plain of Bukeiah, where the railway follows the Wadi Khaled and the road climbs Jebel Nasriyeh to Hadideh. From Tripoli to Khirbet et Tin, a distance of 56 miles, the line rises steadily, but the steepest climb is from Akkari (mile 25) to a small pass overlooking Tell Kalakh. In the narrowest part of the gap, between Akkari and Tell Kalakh, it follows the south or left bank of a tributary of the Nahr el Kebir, and then descends slightly to cross the plain of Bukeiah. Here the line follows the Wadi Khaled in a semicircular curve southwards, rising to Khirbet et Tin, where there is an extensive view over Lake Homs. The descent is gradual to Homs town, the Orontes being crossed before the station is reached. None of the streams crossed required large bridges and there are few other engineering works of any significance.

DETAILED DESCRIPTION

Km. from Tripoli	*Stations and passing-loops*	*Remarks*
0·0	TRIPOLI	Station and workshops 2 km. NW. of town (*see* p. 305) near new port and end of pipe-line. Small RpS.; Tbl.; coal-stack.
		Max. grad. 12 up.
14·5	..	Bridge over Nahr el Barid.
15·8	EL ABDEH	Alt. 20 ft. PL.
		Max. grad. 12 up.
17·0	..	Iron bridge over Nahr el Jamus.
20·0	..	Bridge over Nahr Arka.
28·0	..	Steel lattice-girder bridge over Nahr Akkar.
29·0	TELL ABBAS	Alt. 122 ft. PL.
		Max. grad. 12 up.
35·0	..	Steel lattice-girder and concrete bridge over Nahr el Kebir.
40·1	AKKARI	Alt. 220 ft. PL.
		Max. grad. 20 up.
51·0	TELL KALAKH	Alt. 785 ft. PL. *See* p. 233.
		Max. grad. 20 up.
59·0	..	Bridge over Nahr el Kebir.
65·0	..	Bridge over Wadi Serkhan.
66·2	HADIDEH	Alt. 1,105 ft. PL.
		Max. grad. 20 up.
67·2	..	Bridge over Wadi Khaled.
70·3	..	Bridge over Wadi Mesrab.
77·4	KIZLAKHIR	Alt. 1,712 ft. PL.
		Max. grad. 12 down.
90·2	KHIRBET ET TIN	Alt. 1,739 ft. PL.
99·0	..	Bridge over Orontes.
		Max. grad. 12 up.
102·3	HOMS	Alt. 1,633 ft. Junction. ES. (1 road); Tbl.; coal-stack. W. (from Homs canal; Col.). RpS. MY. (2 loops). For town, *see* p. 213.

LINE 3. THE BAGHDAD RAILWAY

Aleppo–Meidan Ekbes	73 miles	117 kilometres
Aleppo–Choban Bey	39 ,,	63 ,,
(Choban Bey–Nusaybin)	236 ,,	380 ,,
Nusaybin–Tell Ziman–Tell Kotchek	50 ,,	81 ,,

Junctions

Muslimiyeh for Aleppo–Meidan Ekbes and Aleppo–Choban Bey.

Permanent way

Gauge, standard (4 ft. 8½ in.). Rails, 79 lb. per yd. (C.D.); 75 lb. per yd. (L.S.B.); sleepers, wooden. Maximum axle load, 19 metric tons. Minimum radius of curves, 300 metres (Aleppo–Meidan Ekbes); 600 metres (Aleppo–Tell Kotchek). Maximum gradient, Aleppo–Meidan Ekbes 1 : 40; Aleppo–Tell Kotchek 1 : 77.

Stations

Maximum distance between passing-loops, 23 km. (Aleppo–Meidan Ekbes); 40 km. (Aleppo–Tell Kotchek).

Speed and capacity

Theoretical capacity of line: (*a*) Aleppo–Meidan Ekbes, 9 trains, of 260 tons each, in either direction in 24 hours; estimated simultaneous capacity 4 trains; (*b*) Aleppo–Tell Kotchek, 7 trains, of 260 tons each, in either direction in 24 hours; estimated simultaneous capacity 3 trains.

Maintenance

Locomotive depots and repair shops at Aleppo, Muslimiyeh, and Jerablus.

GENERAL DESCRIPTION

The sections of the Baghdad railway are those between Aleppo–Meidan Ekbes and Aleppo–Choban Bey in the west and from the frontier near Nusaybin to Tell Kotchek across the Duck's Bill in the east.

In the west, the line from Meidan Ekbes runs past Muslimiyeh to Aleppo, reverses, and passes Muslimiyeh again where it branches north-east to Choban Bey. From Choban Bey it runs just inside Turkish territory to Nusaybin and then crosses the Duck's Bill to Iraq.

The line from Muslimiyeh to Meidan Ekbes climbs the eastern slopes of Jebel Siman north-west to Katma, beyond which it swings in half a circle round a spur of the Kurd Dagh, descending first a tributary and then the main stream of the Afrin Su to the station of Kurt Kulak. Beyond this place it ascends the tributary valley of the Ak Dereh, crosses the Kurd Dagh beyond Raju, and descends to the valley of the Kara Su, which it follows to the Syrian boundary. There are many cuttings, tunnels, and bridges, including a bridge 4 miles beyond Raju with a total length of 865 feet.

The line from Muslimiyeh to Choban Bey crosses the Kuweik Su 8 miles from Muslimiyeh and follows the valley to Ayun, where it turns north-eastwards through steppe country, crossing many wadis, and rises gently past Akterin to Choban Bey. There are no engineering works of any importance in this section.

The far-eastern section from Nusaybin to Tell Kotchek presents no engineering difficulties. The steppe is undulating and the only obstacles are small affluents of the Jagh Jagh.

A description of the Choban Bey–Nusaybin section will be found in the Geographical Handbook of Turkey B.R. 507 A.

DETAILED DESCRIPTION

(*a*) Aleppo–Meidan Ekbes

Km. from Aleppo	*Stations and passing-loops*	*Remarks*
0·0	Aleppo	Alt. 1,220 ft. Junction. Large MY. (7 main roads). Extensive Sdgs. Goods shed. Coal-stack. Locomotive depot, ES. (roundhouse). Tbl. Repair shops. Water-tower and water-columns. For town, *see* p. 211. Max. grad. 9 up.
15·0	Muslimiyeh	Alt. 1,386 ft. Junction. MY. (6 loop Sdgs.). Sdgs. Locomotive depot. ES. Small repair shops. 2 water-columns, water-tower (6,600 gals.), well, steam pump. Max. grad. 10 up.
37·0	Tell Rifat	Alt. 1,510 ft. PL. Water-column. DES. (180 ft.), shunting neck. Max. grad. 10 up.
50·0	..	Chalk cutting 400 yds. long, 10 ft. deep.
52·0	..	Embankment 5,000 ft. long.
55·0	Katma	Alt. 1,805 ft. PL. Water-column, water-tower (6,600 gals.), steam pump. DES. Max. grad. 25 down.
59·0	..	Tunnel, 235 yds. long.
62·0	..	Steel girder bridge 70 ft. long.
64·0	..	Cutting 200 yds. long.
65·0	..	Steel girder bridge 70 ft. long.
69·0	..	Steel girder bridge 105 ft. long.
71·0	..	Steel girder bridge 160 ft. long.
73·0	Kurt Kulak	Alt. 790 ft. PL. Water-column, water-tower (6,600 gals.), steam pump. DES. Max. grad. 19 up.
75·0	..	Lattice-girder bridge 150 ft. long over Afrin Su.
81·0	..	Steel bridge 68 ft. long over Ak Dereh.
85·0	Military crossing	Alt. *c.* 810 ft. PL. Max. grad. 20 up.
86·0	..	Steel bridge 68 ft. long.
88·0	..	Lattice-girder bridge 50 ft. long.
98·0	Raju	Alt. 1,640 ft. PL. Water-column. DES. Max. grad. 23 down.
101·0	..	Tunnel 1,782 ft. long.
103·0	..	Tunnel 445 ft. long.
104·0	..	Tubular steel trestle bridge (span of 130 ft., three 230-ft. spans, and span of 45 ft.).
108·5	..	Tunnel 429 ft. long.
117·0	Meidan Ekbes	Alt. 1,148 ft. PL. Sdgs. Water tank (6,600 gals.), water-columns, steam pump. Tbl.
118	..	Turkish boundary. Line continues to Konya and Haydarpaşa.

(b) Aleppo–Choban Bey, and Tell Ziman–Tell Kotchek

Km. from Aleppo	*Stations and passing-loops*	*Remarks*
0·0	ALEPPO	Alt. 1,220 ft. *See above.* Max. grad. 9 up.
15·0	MUSLIMIYEH	Alt. 1,386 ft. *See above.* Max. grad. 8 down.
16·0	..	Steel and concrete bridge over Kuweik Su (span of 40 ft., and 2 of 32 ft.).
43·0	AKTERIN	Alt. 1,526 ft. PL. Water-tower (6,600 gals.), water-column, steam pump. Sdg. Max. grad. 8 down.
63·0	CHOBAN BEY (ÇOBAN BEY)	Alt. 1,600 ft. PL. Sdg. Turkish boundary.
84·0	AKCHE KOYUNLI (AĞAÇKOYUNLU)	..
105·0	HULMEN (HÜLMEN)	..
119·0	JERABLUS (KARKAMIŞ)	..
122·0	ZORMAĞA	..
145·0	SIFTEK	..
158·0	ARAPPINAR (MÜRSITPINAR)	..
179·0	HARAPNAS (HARAPNUS)	..
200·0	KUL TEPEH (GÜLTEPE)	..
220·0	TELL ABIAD (AKÇAKALE)	..
260·0	GOJAR (GOCAR)	..
282·0	TUEM (TÜEM)	..
304·0	TELL HAMUD (TELHAMUT)	..
324·0	RAS EL AIN (RESÜLAYN)	..
348·0	BÜYÜK CERELP	..
362·0	ARADA	..
385·0	DERBISIYEH (DERBESIYE)	..
407·0	TELL HALAF (TILHALIF)	..
428·0	SERJI KHAN (SERCIHAN)	..
443·0	NISIBIN (NUSAYBIN)	Alt. 1,706 ft. PL. Max. grad. 12 up. Syro–Turkish boundary.
455·0	TELL ZIMAN	Alt. *c.* 1,700 ft. PL. Max. grad. 6 up.
472·0	..	Bridge over Wadi Jeral.

Km. from Aleppo	*Stations and passing-loops*	*Remarks*
473·0	KUBER EL BID	Alt. *c.* 1,610 ft. PL.
		Max. grad. 8 down.
476·0	..	Bridge over Wadi Abbas.
497·0	DEMIR KAPU	Alt. *c.* 1,345 ft. PL.
		Max. grad. 8 up.
498·0	..	Bridge over Wadi Knezir.
505·0	..	Bridge over Wadi Rumelleh.
524·0	TELL KOTCHEK	Alt. *c.* 1,296 ft. PL.
		Syrian–Iraq boundary.
		Line continues south-east to Mosul and Baghdad.

LINE 4. RAS EN NAKURAH TO TRIPOLI

About 120 miles

GENERAL DESCRIPTION

This line linking Egypt, Palestine, and north Syria has been completed, but no details are available.[1] It follows the coastal plain and the coast road very closely the whole way, generally keeping between the road and the shore, but occasionally crossing over. In the south it has to cut into the cliff face at Ras en Nakurah and Ras el Abiad, where severe curves and grades were necessary. It is reported that a tunnel is being constructed at Ras el Abiad to improve the grading and alinement. Many small bridges and 400 culverts cross the rivers between Nakurah and Beirut, the largest of which are the Litani, 5½ miles north of Tyre, the Nahr Awali, 3 miles north of Sidon, the Nahr Damur, 2 miles south of Damur, and the Nahr Beirut: no details are known of these bridges. The line by-passes Beirut harbour station, and transhipment facilities have been installed at Beirut where the new line crosses the metre-gauge line to Damascus.

North of Beirut the line continues along the shore, still keeping close to the coast road. The construction of this section of the railway was more difficult as the mountains rise very steeply close to the shore; bridges are necessary to cross the rivers—the Nahr el Kelb, Nahr Ibrahim, and Nahr el Joz. The line cuts under the great promontory of Ras esh Shakkah by a tunnel 1,700 yards long, 2 miles north of Batrun, and connects with the standard-gauge line to Homs at Tripoli Harbour.

[1] A more detailed account of this railway is given in *Geographical Handbook of Palestine and Transjordan*, B.R. 514, pp. 360–365.

DETAILED ITINERARY

Km. from Haifa	*Station*	*Remarks*	
49·5	Nakurah	Passing-loop.	
58·4	..	,,	
67·5	Tyre	,,	
75·5	Litani river	,,	
85·0	Phoenician Caves	,,	
94·4	Berah el Tell	,,	
104·0	Sidon	,,	Permanent water
112·0	..	,,	
119·0	Jiyeh	,,	
127·0	Damur	,,	
136·4	Radio Orient	,,	
145·4	..	,,	

Line 5. BEIRUT to DAMASCUS

90·7 miles; 146 kilometres

Junctions

Rayak is the junction with the standard-gauge line to Homs, Hama, and Aleppo. Damascus that for the Hejaz or Pilgrim line to Deraa and Amman.

Permanent way

Gauge: narrow (3 ft. 5⅜ in.). Rails, 43 and 55 lb. per yd.; sleepers, steel. Maximum axle load, 12 metric tons. Minimum radius of curves, 100 metres. Maximum gradient, 1 in 14 rack; 1 in 33 elsewhere.

Stations

Maximum distance between passing loops, 13 km.

Speed and capacity

Average time of passenger trains (including stops): 11 hours. Theoretical capacity of line: 12 trains, of 65 tons each, in either direction in 24 hours; estimated simultaneous capacity 6 trains.

Maintenance

Locomotive depots at Beirut, Moallaka, Rayak and Damascus; repair shops at Beirut, Rayak, and Damascus.

GENERAL DESCRIPTION

This line links the two great cities of the south and is an outlet for goods from as far away as Iraq. The tonnage of goods transported would have justified the construction of a standard-gauge line with double track, but because of the steep passage across Mount Lebanon

PLATE 146. *Racked section of Beirut–Damascus line through Lebanon*

PLATE 147. *Beirut–Damascus road and railway through Lebanon in winter*



PLATE 148. *The railway through the Yarmuk valley*

and the Anti-Lebanon a 105-cm. gauge track with slopes of 7 in 100 and curves of 100 m. radius was built. Even so, the line could not be constructed without a rack-rail. In the total length of 90 miles, 20 miles had to be rack-railed. (Plates 139, 146–7.)

From Beirut harbour the line follows the shore on stone revetments and arches and passes round a cliff, then runs through a rocky promontory in a tunnel 164 yards long to enter Beirut town station. From Beirut the railway takes a general east-south-easterly direction and roughly the same route as the Damascus road, ascending the foot-hills of the Lebanon on the left bank of the Nahr Beirut valley. The ascent is steep almost from the beginning and the rack-rail commences only 4 miles out of the town. It becomes much steeper after about 6 miles, and there are two reversing stations at Areya and Aley. The line continues to rise steeply through rock cuttings and with a gradient of 1 in 14, passing from the cultivated hill-slopes and woods to bleak, bare, stony uplands where snow persists for many months of the year. The highest point of the line, 24 miles from Beirut, is reached at the col of Dahr el Beidar (5,059 ft.), either side of which the line passes through a tunnel. From the col the railway, closely followed by the main road, descends rapidly towards the Bekaa by rack-rail as far as Shtaura, where the rack-rail ends. This village is at the cross-roads formed by the Metulla–Homs and the Beirut–Damascus road. The railway parts company with the main Damascus road here and follows the foothills of Mount Lebanon north-east to Zahleh; the country is fairly broken in this section and there are several culverts across wadis. From Zahleh the railway strikes across the Bekaa to Rayak, crossing the Litani and its affluents.

From Rayak the railway continues eastwards, and penetrates the Anti-Lebanon by the valley of the Wadi Yafufeh. At Jisr er Rummaneh the railway turns south and rises, though less steeply than in the Lebanon, to the watershed (alt. 4,610 feet) south of Serghaya, between the Yafufeh (Litani) and the Barada. The railway then follows the Zebdani depression for nearly 13 miles to Et Tekkiyeh, where the valley contracts and turns south-east. In several places the river valley becomes a narrow defile, and near Suk Wadi Barada the railway passes through a tunnel. Beyond Ain Fijeh it turns south, and near Hameh it is joined by the Beirut–Damascus road before the two pass through the Rabweh gorges, crossing and recrossing the Barada. Once through the gorges the railway enters the Damascus oasis, reaches the Baramkeh station north-west of Damascus, and, skirting the western suburbs of the city, arrives at its terminus in the

Hejaz station. In the last section several bridges not exceeding 60 feet long and a tunnel 180 yards were necessary to negotiate the deeply incised Barada valley.

DETAILED DESCRIPTION

Km. from Beirut	*Stations and passing-loops*	*Remarks*
0·0	BEIRUT Harbour	Alt. 5 ft. Sdgs. for goods traffic.
		Max. grad. 20 up.
1·4	..	Tunnel.
2·0	BEIRUT Town	Alt. 53 ft. ES. (2 roads). Extensive goods sidings. Small MY. Tbl. Coal-stack. Water-tower. Locomotive depot and repair shops. For town, *see* p. 298.
		Max. grad. 68 up.
3·0	..	Viaduct across Tripoli road.
6·0	..	Rack-rail begins.
6·5	EL HADETH	Alt. 266 ft. PL. Water-tank. Sdg.
		Max. grad. 70 up.
9·0	BAABDA	Alt. 693 ft. PL.
12·0	JAMHUR	Alt. 1,246 ft. PL. Water tank. Sdg.
		Max. grad. 70 up.
14·5	..	Tunnel 520 ft. long.
16·0	AREYA (reversing station)	Alt. 1,830 ft. PL. Water-tower. Sdg.
		Max. grad. 70 up.
20·5	ALEY (reversing station)	Alt. 2,772 ft. PL. Sdgs. *See* p. 221.
		Max. grad. 70 up.
26·5	BHAMDUN	Alt. 3,300 ft. PL. Water tank. Sdgs.
		Max. grad. 70 up.
30·5	AIN SOFAR	Alt. 4,224 ft. PL. Water tank.
		Max. grad. 70 up.
33·0	..	Mudeirij tunnel, 350 yds. long.
37·5	DAHR EL BEIDAR	Alt. 4,907 ft. PL.
		Max. grad. 60 down.
38·0	..	Highest point on line, 5,059 ft. Tunnel 1,250 ft. long.
40·0	..	Stone viaduct (3 arches of 40 ft.).
43·5	MREIJATT	Alt. 4,953 ft. PL. Water tank. Sdgs.
		Max. grad. 60 down.
47·0	SHTAURA	Alt. 3,313 ft. PL.
		Rack-rail ends here.
		Max. grad. 25 down.
50·0	..	Masonry bridge (four 30-ft. arches).
51·5	SAID NEIL	Alt. 2,990 ft. PL.
		Max. grad. 25 down.
56·0	ZAHLEH-MOALLAKA	Alt. 3,300 ft. ES. (2 roads). 4 Sdgs. PL. Water-tower, tank and well. Goods shed. Coal-stack. Locomotive depot (rack-rail engines changed for adhesion engines here). For town, *see* p. 233.
		Max. grad. 25 up.
61·0	..	Lattice-girder bridge over Litani (single span of 50 ft.).

Km. from Beirut	*Stations and passing-loops*	*Remarks*
64·0	..	Plate girder bridge over tributary of the Litani (50 ft. long).
65·0	RAYAK	Alt. 3,100 ft. Junction for standard-gauge line to Aleppo. PL. (narrow gauge), 2 PL.s (standard gauge). Transporter for transfer between gauges. Tbl. Coal-stack. Locomotive depot and repair shops. Water tank.
		Max. grad. 30 up.
77·0	YAFUFEH	Alt. 3,722 ft. Water tank.
		Max. grad. 30 up.
87·0	SERGHAYA	Alt. 4,524 ft. PL. Water tank.
		Max. grad. 28 down.
88·5	..	Col. 4,636 ft., the watershed of the Anti-Lebanon.
98·0	ZEBDANI	Alt. 3,993 ft. PL. Goods shed. For town, *see* p. 234.
		Max. grad. 25 down.
110·0	ET TEKKIYEH	Alt. 3,620 ft. PL.
		Max. grad. 28 down.
112·0	..	Masonry bridge across Barada (single 40-ft. arch).
114·0	..	Tunnel 180 yds. long.
115·0	SUK WADI BARADA	Alt. 392 ft.
119·0	DEIR KANUN	Alt. 2,970 ft. PL.
123·0	AIN FIJEH	Alt. 2,712 ft. PL. Water tank. Sdg.
		Max. grad. 17 down.
129·0	JEDEIDEH	Alt. 2,585 ft.
131·0	..	Bridge over Wadi Methalun.
133·5	HAMEH	Alt. 2,543 ft. PL. Water tank.
		Max. grad. 25 down.
137·0	DUMMAR	Alt. 2,442 ft. PL.
138·0	..	Plate girder bridge over Barada (50 ft. long).
140·0	..	Steel girder ridge over Barada (60 ft. long).
141·0	..	Steel girder bridge over canal (30 ft. long).
144·0	DAMASCUS-BARAMKEH	Alt. 2,295 ft. Sdgs. Goods sheds.
146·0	DAMASCUS-HEJAZ	Alt. 2,260 ft. Junction with Hejaz railway. ES. Tbl. Coal-stack. W. (good supply, reservoir, 2 water-columns). Locomotive depot. Main narrow-gauge repair shops. For town, *see* p. 207.

LINE 6. DAMASCUS TO DERAA

76·4 miles; 123 kilometres

Junctions

Damascus–Beirut; Ezraa–Suweida; Deraa–Bosra eski Sham; Deraa–Haifa–Nessib.

Permanent way

Gauge: narrow (3 ft. $5\frac{3}{8}$ in.); Ezraa–Suweida 1 ft. $11\frac{1}{2}$ in. Rails, 43 and 58 lb. per yd.; sleepers, steel and wood. Maximum axle load, 10 metric tons. Minimum radius of curves, 250 metres. Maximum gradient, 1 in 76.

Stations

Maximum distance between passing-loops, 21 km.

Speed and capacity

Average time of passenger trains (including stops): 4 hr. 40 min. Theoretical capacity of line: 10 trains, of 180 tons each, in either direction in 24 hours; estimated simultaneous capacity 5 trains.

Maintenance

Locomotive depots at Damascus and Deraa; repair shops at Damascus.

GENERAL DESCRIPTION

This line serves both the Hauran and Jebel Druse. It goes in a southerly direction from Damascus, and has branch lines east to Suweida (60 cm.; 1 ft. $11\frac{1}{2}$ in. gauge), and to Bosra eski Sham; it is also linked to the coast by Lines 5 and 7, and to Transjordan by Line 7. Although the Hejaz railway was originally built to transport pilgrims to Mecca, it is now commercially important as it transports the grain of the Hauran to Palestine; the branch lines have military and strategic value. The line is duplicated by the Deraa–Damascus road which lies to the west of the railway.

The line starts from the Hejaz station and passes through the gardens of the oasis, which gradually give way to a well-cultivated plain. At the foot of Jebel Aswad the line turns east to cross a col in the range. It then descends the valley of the Nahr el Awaj, crossing the river, and skirts the west flank of Jebel Maani past Kiswe, the highest station, to Mesmiyeh. The line turns west again here, and skirts the edge of the Leja lava mass, with the Hauran plain stretching out to the west. From Ezraa, the junction for the 60-cm. branch line to Suweida, the line strikes out across the Hauran for 20 miles and descends to Deraa, leaving the Leja to the east.

Bridges crossing the small wadis on this line are inconsiderable. The largest is a 60-ft. masonry bridge across the Nahr el Awaj near Kiswe. The stations between Damascus and Deraa have water tanks of 5,600 gallons supplied from wells by steam pumps (except at Jebab).

DETAILED DESCRIPTION

Km. from Damascus	*Stations and passing-loops*	*Remarks*
0·0	DAMASCUS-HEJAZ	Alt. 2,260 ft. Junction with line to Beirut. ES. Tbl. Coal-stack. W. (good supply, reservoir and 2 water-columns). Locomotive depot. Main narrow-gauge repair shops. For town, *see* p. 207. Max. grad. 18 up.
16·0	..	Masonry bridge across Nahr el Awaj (three 20-ft. arches).
20·8	KISWE	Alt. 2,438 ft. Sdg. Water tank. Max. grad. 10 down.
30·8	DEIR ALI	Alt. 2,287 ft. Sdg. Water tank. Max. grad. 12 down.
51·7	MESMIYEH	Alt. 2,224 ft. Sdg. Water tank 2 km. south of station. Max. grad. 8 up.
62·7	JEBAB	Alt. 2,110 ft. Sdg. Max. grad. 7 down.
69·5	KHABAB	Alt. 2,160 ft. Sdg. Water tank. Max. grad. 10 down.
78·0	MAHAJEH	Alt. 1,975 ft. Sdg. Water tank; well with fair supply. Max. grad. 10 down.
91·5	EZRAA	Alt. 1,940 ft. Junction for line to Suweida. Sdg. Water tank; station 3 km. south-west of village. Max. grad. 12 down.
106·0	..	Bridge across Wadi Ghazaleh.
106·3	GHAZALEH	Alt. 2,224 ft. Sdg. Water tank. Max. grad. 13 down.
115·0	..	Bridge across Wadi ed Dahab.
123·0	DERAA	Alt. 1,742 ft. Junction with Haifa–Nessib line, also for branch line to Bosra eski Sham. MY. (4 Sdgs., 10 loops). Turning triangle 500 yds. north of station. ES. coal-stack. W. (water tank, 16,000 gals.; water-column; well; steam pump). *See* p. 219.

EZRAA TO SUWEIDA

28·2 miles; 45·5 kilometres

This is one of the two branches of the Hejaz railway which have been built since 1918. It was built after the Druse rebellion in 1925, and is the only line of 60 cm. (1 ft. 11½ in.) gauge in Syria. The line strikes south-east across the Hauran to Herak, where it turns east and starts to rise gently into the foothills of Jebel Druse. The ascent is easy and few engineering works were needed. From Umm Waled

the railway turns north-north-east to its terminus at Suweida, the capital of the Mohafazet of the Jebel Druse.

Km. from Ezraa	*Station*	*Remarks*
0·0	Ezraa	Altitude 1,940 ft.
15·0	Herak	. .
33·0	Umm Waled	. .
45·5	Suweida	Altitude 3,018 ft. Capital of Jebel Druse. *See* p. 218. Terminus.

Deraa to Bosra eski Sham

24·5 miles; 39·5 kilometres

Three miles east of Deraa the branch line to Bosra eski Sham turns off from Route 7 and follows the Wadi Zeidi south-east about one mile north of the river-bed for the greater part of its way. It crosses the stream at Tayibeh, whence it turns more to the east through Ghasm to Bosra eski Sham. Engineering works are few.

Km. from Deraa	*Station*	*Remarks*
0·0	Deraa	Altitude 1,742 ft. *See* p. 219.
2·2	. .	Masonry bridge, over Wadi Zeidi (6 spans of 20 ft.).
6·0	Kom Gharz	Altitude 1,800 ft. Junction for line to Nessib and Amman.
16·0	Tayibeh	Altitude 1,947.
16·5	. .	Bridge over Wadi Zeidi.
29·0	Ghasm	Altitude 2,425 ft.
39·5	Bosra eski Sham	Altitude 2,624 ft. Terminus.

Line 7. SAMAKH to NESSIB

54 miles; 87 kilometres

Junctions

Deraa–Damascus. Kom Gharz–Bosra eski Sham.

Permanent way

Gauge: narrow (3 ft. $5\frac{3}{8}$ in.). Rails, 43 and 50 lb. per yd.; sleepers, steel and wood. Maximum axle load, 10 metric tons. Minimum radius of curves, 100 metres. Maximum gradient, 1 in 50.

Stations

Maximum distance between passing-loops. 13·5 km.

Speed and capacity

Average time of passenger trains (including stops): 3 h. 40 min. Theoretical capacity of line: 8 trains, of 110 tons each, in either direction in 24 hours; estimated simultaneous capacity 5 trains.

Maintenance

Locomotive depots at Samakh (Palestine) and Deraa.

GENERAL DESCRIPTION

This is the Syrian section of the narrow-gauge line which links the Palestinian port of Haifa with Deraa, and continues thence to the Transjordan frontier. It is important for the transport of cereals from the Hauran to Palestine. (Plates 31, 148.)

The line at Samakh lies below sea-level in the Jordan valley. It enters the Yarmuk valley, which is narrow with steep sides and crosses the Syrian frontier at mile 3. The railway climbs fairly steeply and passes from one side of the river to the other by girder bridges; there are many deep cuttings and some tunnels. At mile 18 sea-level is reached. The line continues to wind up the valley at the foot of steep slopes, ascending at a gradient of about 17 in 1,000. At $1\frac{1}{2}$ miles beyond Makaren, which is 20 miles from the frontier, the railway crosses to the right bank just above the confluence of the Nahr el Ehrer and turns up the valley of this stream, then about 3 miles farther it re-enters the Yarmuk valley higher up the side. Fifteen miles east of Makaren the railway follows the Wadi Meddan up to Tell esh Shehab on the edge of the Hauran plateau. From here the line crosses the plateau rising gently past Mezerib to Deraa, the junction with the main Hejaz railway. The line to Amman goes south-east from Deraa, crossing the Wadi Zeidi 2 miles before Kom Gharz, the junction for Bosra eski Sham. Here the line turns south-south-east for 7 miles past Nessib to the Transjordan frontier, twice crossing a tributary of the Wadi Zeidi.

The steep ascent from the Jordan valley, which is 617 ft. below sea-level at Samakh, and the narrowness of the Yarmuk valley, have necessitated many engineering works, cuttings, tunnels, and bridges (Plate 148). Three of the latter exceed 360 feet in length.

DETAILED DESCRIPTION

Km. from Samakh[1]	*Stations and passing-loops*	*Remarks*
0·0	SAMAKH	Alt. −617 ft. ES. W. PL. Max. grad. 15 up.
4·8	..	Syrian frontier.
6·2	..	Steel girder bridge over Yarmuk (100, 160, and 100 ft. spans; masonry piers and abutments).
7·5	..	Steel girder bridge over Yarmuk (100, 160, and 100 ft. spans; masonry piers and abutments).
8·5	EL HAMMEH	Alt. −479 ft. 2 loops. Max. grad. 15 up.
9·1	..	Steel girder bridge over Yarmuk (100, 160, and 100 ft. spans; masonry piers and abutments).
13·2	..	Steel girder bridge over Yarmuk (100, 160, and 100 ft. spans; masonry piers and abutments).
16·6	..	Tunnel 720 ft. long.
18·6	..	Masonry bridge over Yarmuk (six 40-ft. spans).
20·5	WADI KHALED	Alt. −177 ft. PL. Sdgs. W. (reservoir—spring water; 2 water-columns). Max. grad. 15 up.
26·6	..	Masonry bridge over Yarmuk (five 40-ft. spans).
29·0	..	Line reaches sea-level.
32·5	ESH SHAJARA	Alt. +79 ft. PL. Max. grad. 15 up.
33·2	..	Masonry bridge over tributary (six 40-ft. spans).[2]
34·3	..	Masonry bridge over Yarmuk (five 16-ft. spans).
37·5	MAKAREN	Alt. 230 ft. 2 loops. 2 water-columns; reservoir—spring water. Max. grad. 20 up.
38·3	..	Steel girder bridge over Yarmuk just above junction with Nahr el Ehrer (spans of 50 and 32 ft.).
40·0	..	Tunnel 470 ft. long. Line enters Nahr el Ehrer valley.
41·4	..	Masonry bridge over Nahr el Ehrer (three 40-ft. spans).
43·5	..	Masonry bridge over Nahr el Ehrer (three 40-ft. spans).
44·7	..	Tunnel 300 ft. long.
46·1	..	Tunnel 410 ft. long (through same spur as tunnel at km. 40). Line re-enters Yarmuk valley.
48·8	ZEIZUN	Alt. 860 ft. PL. 2 water-columns; reservoir—spring water. Max. grad. 20 up.

[1] 87 km. by rail from Haifa.
[2] Official records give 6 arches; an old photograph distinctly shows 7.

Km. from Samakh[1]	*Stations and passing-loops*	*Remarks*
50·5	..	Tunnel 520 ft. long.
51·8	..	Tunnel 290 ft. long.
54·2	..	Masonry bridge over Yarmuk (three 20-ft. spans, one 40-ft. span, and three 20-ft. spans).
54·4	..	Masonry and girder (central span only) bridge over Yarmuk (two 17-ft. spans, one 160-ft. span, and three 17-ft. spans).
56·3	..	Masonry bridge over Yarmuk (3 spans, 20, 40, and 20 ft.).
56·4	..	Tunnel 570 ft. long.
62·1	MEZERIB	Alt. 1,527 ft. PL. Water tank fed by steam pump from Lake Mezerib. Max. grad. 15 up.
73·8	DERAA	Alt. 1,742 ft. Junction with line from Damascus. MY. (4 Sdgs., 10 loops). Turning triangle 500 yds. north of station. ES. Coal-stack. W. (water tank, 16,000 gals.; water-column; well; steam pump).
79·0	KOM GHARZ	Alt. 1,800 ft. Junction for line to Bosra eski Sham.
80·0	..	Masonry bridge over Wadi Zeidi (6 spans of 20 ft.).
85·0	..	Steel girder bridge over wadi (4 spans of 17 ft.).
87·0	NESSIB	Alt. 1,880 ft.
90·0	..	Transjordan frontier. Line continues south to Amman.

[1] 87 km. by rail from Haifa.

LINE 8. BEIRUT TO MAAMELTEIN

14 miles; 23 kilometres

This line, known as the 'Tramways Libanais', was built originally to link Beirut and Tripoli by a narrow-gauge coastal railway, but was never completed. It was not taken up when the new standard-gauge line from Beirut to Tripoli was finished, which runs inland of the 'Tramway' route. The line starts at Beirut town station, crosses the Nahr Beirut, and runs north along the shores of St. George's bay, at times coming right down to the beach. It passes alternately through cultivated land, mulberry groves, and marshes, touching at all the small villages along the coast. Juneh is the first town served by the railway. Thence to Maameltein the line skirts the bay. The only engineering works required on this line were small bridges over the mountain torrents and two larger bridges over the Nahr Beirut and Nahr el Kelb. The water-supply is plentiful. (Plate 46.)

DETAILED DESCRIPTION

Km. from Beirut	*Station*	*Remarks*
0·0	BEIRUT HARBOUR	For details see Line 5.
0·7	MEDAWAR	Halt.
1·3	BEIRUT TOWN	For details see Line 5.
1·8	..	Iron bridge of 4 lattice girders on stone piers across Nahr Beirut.
3·8	DORA	..
5·2	NAHR EL MOT	Railway close to beach. Bridge over Nahr el Mot.
7·0	FUAR	..
8·2	ANTELIAS	Station with siding. Two bridges over stream.
10·7	DBAYEH	Pleasure resort. Water-supply plentiful.
13·0	NAHR EL KELB	Bridge over Nahr el Kelb parallel with road bridge.
15·5	ANTURA	Halt.
17·6	SARBA	..
18·7	JUNEH	*See* p. 320.
19·6	BITAR	..
23·0	MAAMELTEIN	Terminus.

Note. Distances in the description of roads are all approximate; in the railways section they have been taken from official sources.

C. THE SEA ROUTES

THE main shipping routes to Syria are either southwards from the Turkish ports and Cyprus or northwards from Alexandria. The routes used by the steamship companies before 1940 were as follows:

Marseilles by Alexandria to Beirut

1,737 sea miles. 6–9–14 days.

Companies: Messageries Maritimes. Fabre Line.

Société Maritime et Coloniale calls at Alexandria, Jaffa, and Haifa; on return at Tripoli, Latakia, Alexandretta, Mersin, and Alexandria.

Marseilles by Naples, Piraeus, and Istanbul to Beirut

2,603 sea miles. 12 days.

Company: Messageries Maritimes calls at Naples, Piraeus, Istambul, Izmir, Mersin, or Alexandretta, and sometimes Cyprus.

Trieste by Brindisi to Beirut

1,394 sea miles. 7 days.

Company: Lloyd Triestino, calling at Brindisi and Jaffa.

Trieste by Piraeus, Candia, and Alexandria to Beirut

1,930 sea miles. 16 days.

Company: Lloyd Triestino calling at Venice, Fiume, Split, Bari, Brindisi, Patras, Piraeus, Candia, Alexandria, Port Said, and Jaffa.

Trieste by Piraeus, Rhodes, and Alexandretta to Beirut

1,933 sea miles. 15 days.

Company: Lloyd Triestino calling at Venice, Fiume, Ancona, Split, Piraeus, Rhodes, Limassol, Mersin, Alexandretta, and Tripoli.

Genoa and Naples to Beirut

1,535 sea miles. 11 days.

Company: Sitmar (Societa Italiana di Servizi Maritimi) calling at Naples and Alexandria.

Genoa by Naples and Istambul to Beirut

2,095 sea miles. 14 days.

Company: Sitmar, calling at Naples, Catania, Piraeus, Istambul, Rhodes, Mersin, Alexandretta, and Tripoli.

Athens to Beirut

680 sea miles.

Company: Byron Line. 48 hours. Direct.

Alexandria to Beirut

333 sea miles. 24 hrs.–4 days.

Companies: Messageries Maritimes, Fabre Line, Lloyd Triestino, Khedival Mail Line, Sitmar, and Eastern Mediterranean Line calling at Port Said, Jaffa, Haifa, Cyprus.

Port Said to Beirut

230 sea miles. 2–3 days.

Companies: Lloyd Triestino calling at Jaffa and Haifa.
Khedival Mail Line calling at Cyprus.

D. AIR

In 1939 there were civil airfields at Aleppo (Neirab), Beirut, Damascus (Mezzeh), and Tripoli (Kleiat); a seaplane airport at Tripoli (El Mina) and seaplane landing areas at Beirut and on the Euphrates at Deir ez Zor; a number of military airfields and landing-grounds were scattered throughout the country. These were grouped generally in four regions (Fig. 65):

Along the northern frontier.
Along the Euphrates.
Across the central Hamad by Palmyra to Abu Kemal.
Around the Hauran and Jebel Druse.

Since the Allied intervention in 1941 it is probable that the military airfields and landing-grounds may have been altered, though it is most unlikely that the civil have changed as well. The full list is therefore given in the table below. In 1938 Air France owned a flying-boat hangar at Beirut, but the headquarters were transferred to Tripoli in that year. Air France operated the only air line in Syria before the war, with a weekly service in each direction from Marseilles to either Beirut or Tripoli (via Naples, Corfu, Athens, and Castel Rosso). This service was extended to Saigon via Calcutta and Bangkok. There was also a local weekly service between Damascus and Baghdad.

In the following list the airfields and landing-grounds are grouped in three parts, each in alphabetical order:

Civil airports or airfields which may also be military.
Military airfields.
Military landing-grounds.
Airport or landing areas for seaplanes.

At the airfields or seaplane airports there are one or more hangars for aircraft. At landing-grounds there is an area for aircraft to land if necessary, but no facilities except for minor repairs.

Civil Airfields or Landing-grounds

Name	*Classification*	*Surface conditions*
Aleppo (Neirab)	Civil and military aerodrome.	Heavy—unserviceable after heavy rains.
Beirut	Civil and military aerodrome.	Sandy.
Damascus (Mezzeh)	Civil airport and military aerodrome.	East—hard and stony. West—serviceable in all weathers.

Name	*Classification*	*Surface conditions*
Tripoli (Kleiat)	Civil airport.	Hard surface when dry. Soft after rain.
T 2	Landing-ground. Iraq Petroleum Co.	Sandy.
T 3	Landing-ground. Iraq Petroleum Co.	Sandy.
T 4	Landing-ground. Iraq Petroleum Co.	Sandy.

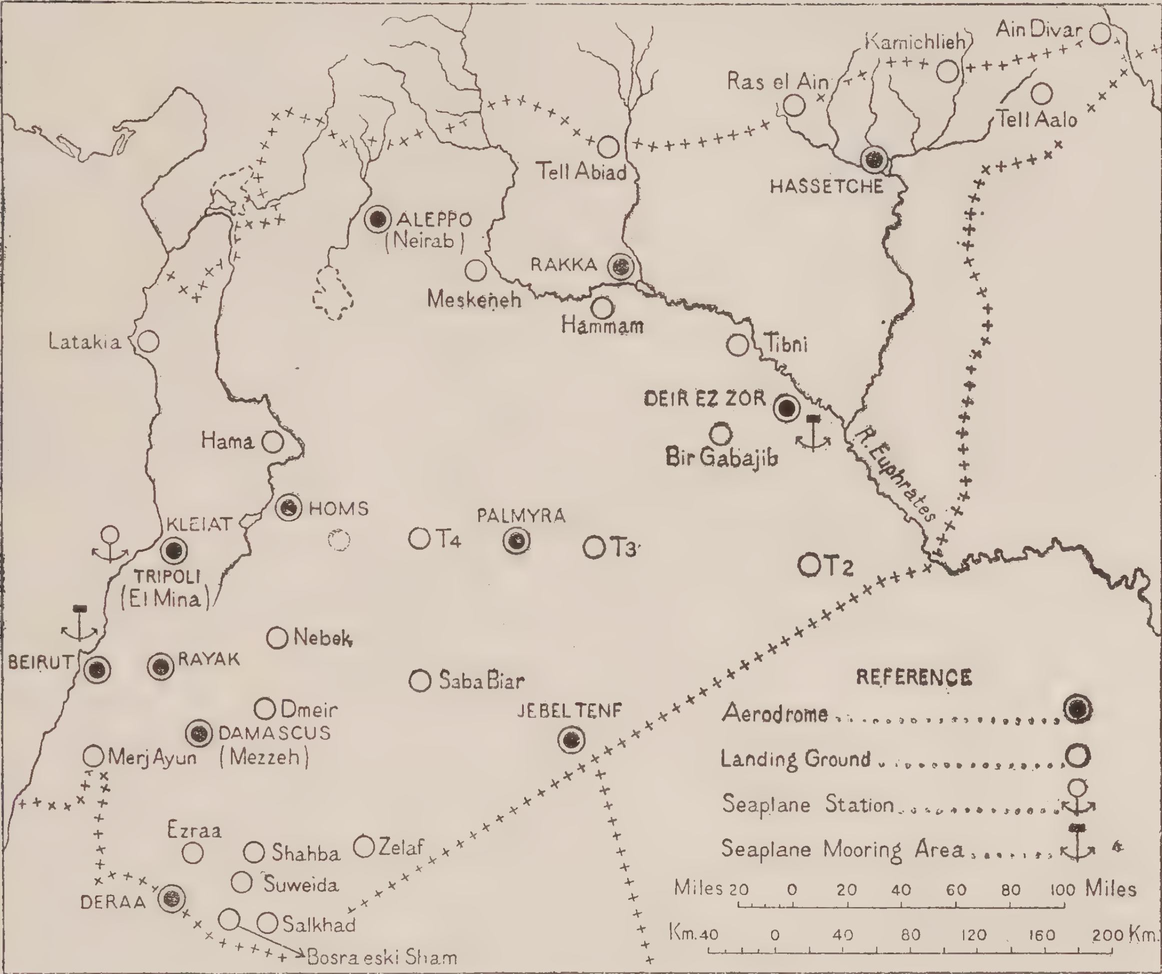


FIG. 65. *Airfields and landing-grounds*

Military Airfields

Name	*Surface conditions*
Deir ez Zor	Sandy and dry.
Deraa	Sandy and dry.
Hassetche	Sandy.
Homs	Soft after heavy rains.
Jebel Tenf	Sandy and very dry.
Palmyra	Pebbly and dry.
Rakka	Sandy.
Rayak	Heavy after continuous rain.

Military Landing-grounds

Name	*Surface conditions*
Tell Abiad	Hard and dry.
Ain Divar	Pebbly.
Bir Gabajib	Pebbly.
Bosra eski Sham	Sandy.
Dmeir	Sandy and dry.
Ezraa	Heavy and soggy after rains.
Hama	Pebbly.
Hammam	Gravel.
Kamichlieh	Marshy after rains.
Latakia	Heavy when very wet.
Meskeneh	Heavy rains render marshy.
Merj Ayun	Clayey and heavy.
Nebek	Sandy and well drained.
Ras el Ain	Hard except after rains.
Saba Biar	Sandy and very dry.
Salkhad	Volcanic detritus.
Shahba	Volcanic detritus.
Suweida	Heavy and wet after rains.
Tell Aalo	Sandy.
Tibni	Sandy.
Zelaf	Sandy.

Airport or Landing Area for Seaplanes

Tripoli (El Mina)	Calm.
Beirut	Sheltered except from north winds which are rare.
Deir ez Zor	Many shoals; water is shallow except in the centre of the river.

E. SIGNAL COMMUNICATIONS

The main signal communications (Fig. 66) in the western part of the country, where all the main towns are found, are telegraphs and telephones, both having been greatly developed by 1940. Farther east, towards the Euphrates, run only two telegraph routes; there are also military wireless stations, of which a proportion are at villages where there are airfields. With other countries, however, the 25-kW. wireless station at Beirut is the best means of communication. Here there are both government and commercial stations, with a number of transmitters for wireless telegraphy and telephony. There are a small number of government and 'Air France' wireless stations at other towns (*see* Table below), but there were also many military stations before the Allied intervention in 1941. There is a submarine cable from Beirut to Tunis which was also sealed at Beirut in 1941.

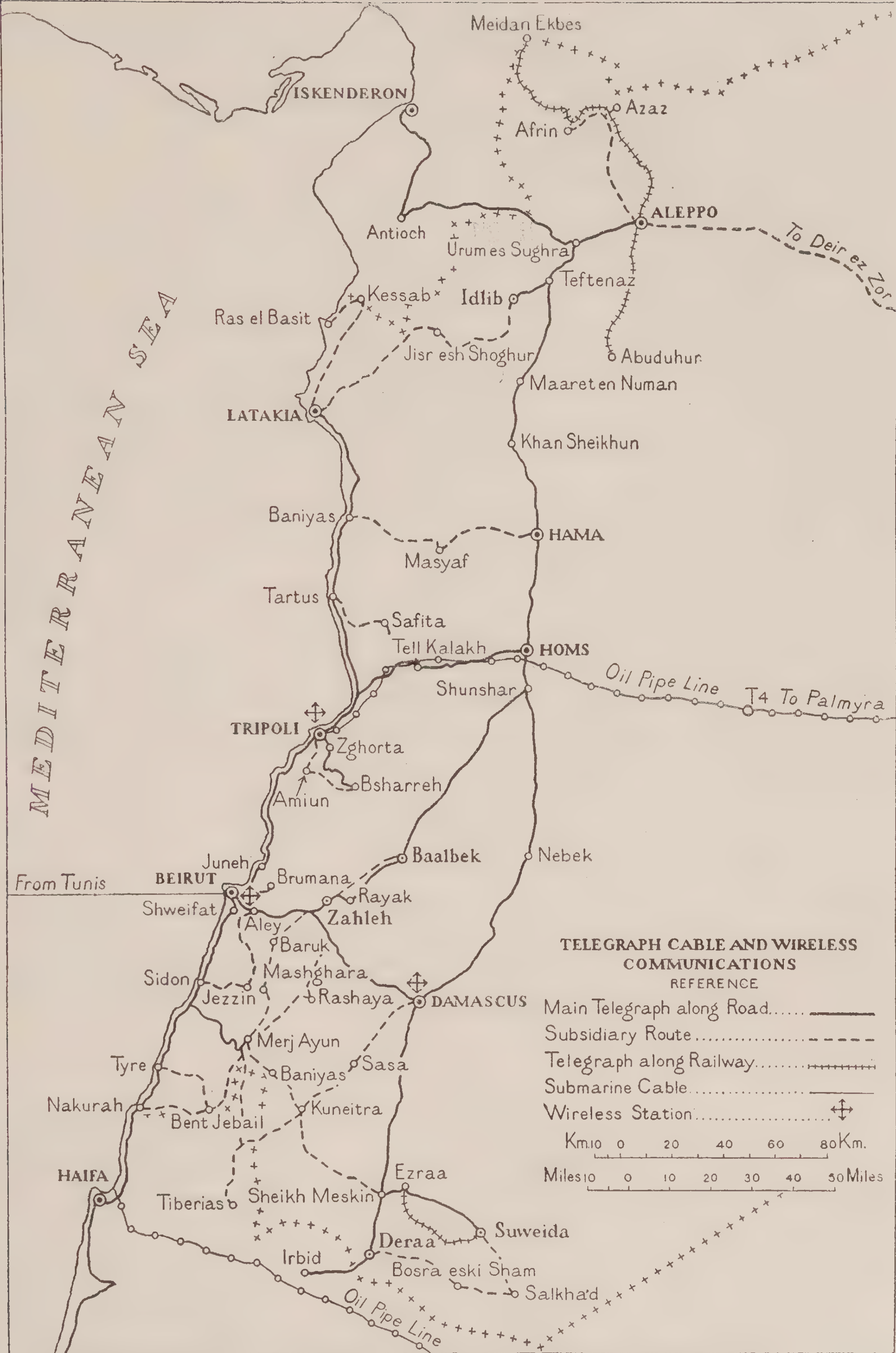


FIG. 66. *Signal communications*

The telegraph and telephone lines are divided into three classes, all overhead, namely:

(*a*) Main routes, usually along main roads and normally running from north and south.

(*b*) Subsidiary routes, often east to west, joining the main routes by side roads or tracks.

(*c*) Railway telegraph routes.

In the southern part of Syria the Lebanon and Anti-Lebanon mountains divide the main routes into three as far north as the Tripoli–Homs gap. At the extreme south there are a number of subsidiary lines connecting the main routes. To the north there are only two main and few subsidiary routes as far as the latitude of Latakia. The main route along the coast then becomes subsidiary for a short distance, and does not go beyond Kessab, though some maps show this line as continuing across the frontier to Antioch. In central Syria the main lines continue northward, on the east by the railway through Aleppo, while on the west the line turns back towards the coast, passing south of the Amanus mountains to Antioch in Turkey; farther north the route continues to Alexandretta. There is one main route from Homs to Palmyra along the pipe-line and one subsidiary to Deir ez Zor from Aleppo. Generally the number of routes are considerably more numerous south of Damascus and Beirut than north through Homs and Aleppo.

Wireless Stations in Syria

Name of station	*Position*	*Wave-lengths. Long, Medium, or Short*	*Power in kW.*	*Owner and remarks*
BEIRUT	33° 48′ N. 35° 28′ E.	1 long, remaining 18 short	25 (long) remainder 10 6 2 1·6 1	Government and Commercial Station. There are a number of radio-telephony sets.
BEIRUT	33° 48′ N. 35° 28′ E.	2 medium 2 short	2 1	Coast station and service to shipping, just south of the main Beirut station.
BEIRUT AERADIO	33° 51′ N. 35° 29′ E.	2 medium	0·6	'Air France' Station.
DAMASCUS AERADIO	33° 29′ N. 36° 15′ E.	1 medium 2 short	0·8	'Air France' Station fitted with direction-finding apparatus on the medium wave-length.
TRIPOLI LIBAN AERADIO	34° 28′ N. 35° 50′ E.	1 medium 2 short	Unknown	'Air France' station with direction-finding apparatus on the medium wave-length.

The Iraq Petroleum Company has four wireless stations of its own along the pipe-line (T 2, T 3, T 4) and at Tripoli.

APPENDIXES

APPENDIX A

STRATIGRAPHY

A SYNOPSIS of the beds found in Syria is given in the Table. Palaeozoic rocks come to the surface only at one spot in the east, but they probably underlie much of the country in the east and west, since Palestine supplies evidence of Cambrian, and Turkey of Ordovician, Devonian, and Carboniferous beds, close to the border. Thinly developed Lower and Upper Trias strata have been found in Palestine, but although they are thick in Kurdistan they are not yet known in most of Syria. Jurassic limestones and marls outcrop extensively in the cores of the coastal mountains. In the north-west there are serpentines, red chert, and coloured crystalline limestones, part of a packet well developed in Turkey and believed to be Jurassic. Cretaceous rocks form much of the sheath of the coastal mountains and occur widely in central Syria. The false-bedded Nubian sandstone lies at the base, limestones and marls make up the main part; in the north sandstones with gravels and silts occur near the top corresponding with part of the flysch in Europe, Turkey, and Iraq. Marls and marly limestones belonging to the Upper Cretaceous in the centre and east are matched by contemporaneous rocks in parts of Iraq and Iran. The veneer of Kainozoic rocks is not thick. Eocene, Oligocene, and Lower Miocene, developed largely as limestones, though not ubiquitous, are extensive, but the Middle Miocene, represented by deposits of gypsum, red marls, and sandstones, is confined to the east. Younger sedimentary beds are mostly detrital and local, but sub-recent lavas, poured out from groups of throats lying along fissures, cover a large area. In the coast-lands there are some reefs of algae and sandstones of no great age.

TABLE OF STRATA IN SYRIA AND LEBANON

Recent and Sub-Recent	Alluvium, fluvial, and lacustrine. Calcareous sandstone with lithothamnion near the coast. Olivine basalt flows up to 1,200 m. thick. Some wholly, some semi-crystalline.
Pliocene	Blue clays with *Pleurotomia* near Latakia and near Saki in Palestine. Lake beds and local bodies of thick conglomerates inland. Red sandstones, marls, shales, and conglomerates belonging to the Upper Fars and Baktiari formations east of the Euphrates.
Miocene	*Upper*, in the Coastal Area: 50 m. Gypsum and porous limestones with *Clausinella*. 2–300 m. Sandstone and conglomerate with *Lucina* and *Ancillaria*. 100 m. Lithothamnion limestone with *Clypeaster* and *Pectens*.

Table of Strata in Syria and Lebanon—continued

	10–80 m. Conglomerates. Near Jebel Bishri and the Euphrates: 200 m. Gypsum and interbedded porous limestones. 100 m. *Clausinella* limestone. *Lower.* Third Kalamun ridge: 30–60 m. White limestone, with *Lepidocyclina* and *Miogypsins* Euphrates valley region: 80–100 m. Variegated sandstones with limestones containing *Eulepidina.*
Oligocene	Chalky limestone and some thin green sandstone (Palmyra) with nummulites, *Lepidocyclina,* and *Eulepidina.* Euphrates valley region: Light grey limestones with nummulites and *Eulepidina.*
Eocene	In Southern Lebanon and the Third Kalamun ridge: 100 m. Chalky limestones with bedded chert, some nummulites. Between Latakia and Antioch, northern Syria: Bedded limestones with *Flosculina* and *Asterodiscus.* In the coastal mountains in irregular bodies: 0–100 m. Calcareous grits and nummulitic limestone showing no bedding. In the north-east pan-handle of Syria: 0–30 m. Calcareous coralline grits with nummulites and *Globigerina.*
Cretaceous	*Upper,* comprising Senonian, i.e. Santonian, Campanian, and Maestrichtian. Widely distributed but only the Maestrichtian present in north-west Syria. 200–300 m. Mainly marly limestones, but with some shaly beds containing phosphates in the middle with chert nodules in places. Chalky beds on top containing pebbles of gypsum. Lamelli branch, fauna mainly. *Loftusia* present near Rutba. *Middle,* comprising Cenomanian and Turonian all exposed in the coastal country but outcropping in most folds throughout Syria. 500–1,000 m. Bedded limestones and dolomitic limestones with infrequent fossils, including *Knemiceras, Heteraster, Acanthoceras,* and rudists. *Lower,* comprising Neocomian, Aptian, and Albian. It is best developed in central Lebanon (600 m.) with nearly as much in the south. It is much thinner in Anti-Lebanon, south of which only the sandstones facies develops. Sandstones alone outcrop in the east towards Rutba. In north Lebanon tuffs are the main rocks and in Jebel Ansariyeh only thin limestones of the Aptian and Albian are present. Central Lebanon: 150–200 m. Marls with limestone ribs on top with bedded limestones and calcareous grits below with oolites and *Orbitolina.* 80 m. Alternating marls, limestones, shales, and sandstones

Table of Strata in Syria and Lebanon—continued

	above with oolites and dark marls and clays with lignites below. 300 m. Ferruginous false-bedded fine-grained sandstone with some beds of black shale, a little chert, and a bed with pisolite on top.
Jurassic	In the coastal area from Antioch to Sinai calcareous beds are present, though a continental area lay eastwards in Trans-jordan. *Upper*, comprising Callovian, Oxfordian, Sequanian, and Titho-nian Yellow oolites, massive limestone, bedded limestones, dark marls, and marly limestones in succession downwards. *Middle*, comprising Bajocian, Bathonian: 1,200 m. Alga limestones sometimes dolomitized interbedded with marls with *Pholadomya* and *brachiopodes*. *Lower*, comprising the Lias: Lignitic sandstones and lacustrine beds. In the north-west area between Antioch and Maraç serpen-tines, red chert, coloured limestones, and lavas.
Trias	*Upper*: 80 m. Fossiliferous limestone with *Coenothyris*, *Gervillia*, and *Beneckeia*. *Lower*: 15 m. Alternating yellow and brown shales with *Lingula* and *Pseudomonotis*. 70 m. Shales and hard sandstone with *Pseudomonotis* and *myphoria*.
Carboniferous	*Lower*, in Jebel Abdul Aziz: Micaceous sandstone with *lepidodendron* and *Archeosigillaria*. Ferruginous sandy limestones with *Spirifer*, *Orthotetes*, &c.
Silurian	Graphitic quartzites (age doubtful) at Jebel Abdul Aziz. Shales and quartzites in Giaur Dagh just north-west of Syria in Turkey.
Cambrian	*Middle*, on the walls of the Dead Sea valley: 50–60 m. Quartzites and dolomitic limestones with Para-doxides and Hyolithes. *Lower*: Red sandstones.

APPENDIX B

METEOROLOGICAL TABLES

Table 1. *Winds*

Percentage Frequency of Direction

		Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*
1. *Coast*													
Beirut* (37 yrs.' observations)	N.	6	6	8	7	8	6	2	3	8	12	8	5
	NE.	9	7	11	12	12	4	2	3	10	18	12	9
	E.	10	7	6	4	2	1	0	0	1	4	7	10
	SE.	7	5	3	1	1	1	0	0	1	2	5	8
	S.	9	7	4	5	4	4	4	4	2	2	6	10
	SW.	**23**	**30**	**30**	**34**	**33**	**47**	**54**	**49**	**29**	**21**	**21**	**21**
	W.	7	8	7	10	11	12	14	12	13	7	5	5
	NW.	3	3	3	3	5	4	3	5	10	5	3	3
	Calm	26	27	28	24	24	21	21	24	26	29	33	29
Haifa† (10 yrs.' observations)	N.	2	2	3	6	8	6	3	2	6	5	3	2
	NE.	4	3	6	3	6	3	1	4	6	4	5	4
	E.	14	12	13	7	7	4	2	2	5	10	**18**	14
	SE.	**20**	17	**17**	9	8	4	3	2	4	10	17	23
	S.	**20**	**19**	14	13	9	16	16	15	12	11	15	**24**
	SW.	14	18	14	**16**	10	**19**	**27**	**23**	**18**	**12**	14	15
	W.	4	8	5	12	9	11	17	17	12	7	5	3
	NW.	2	7	9	12	**15**	13	9	9	12	10	7	2
	Calm	20	14	19	22	28	24	22	26	25	**31**	16	13
2. *Mountains*													
El Kareya* (10 yrs.' observations)	N.	6	4	5	4	7	9	9	9	6	4	5	7
	NE.	1	3	2	2	4	3	2	2	5	1	1	1
	E.	**14**	8	10	6	6	3	2	1	4	11	12	16
	SE.	9	16	11	19	14	4	1	2	4	14	10	8
	S.	10	11	10	8	7	3	3	4	7	10	13	10
	SW.	13	12	12	8	4	1	2	2	10	8	14	12
	W.	13	**17**	**22**	**23**	**21**	**24**	**19**	**17**	**18**	**20**	**16**	**16**
	NW.	3	5	7	8	11	16	16	14	8	6	4	3
	Calm	31	24	21	22	26	37	46	49	38	26	25	27
3. *Central Depression*													
Ksara* (4 yrs.' observations)	N.	5	1	3	4	4	4	5	5	3	3	4	3
	NE.	9	8	4	7	1	3	1	3	2	6	6	10
	E.	9	6	3	5	5	2	2	1	1	4	6	9
	SE.	1	2	4	3	3	1	2	0	2	2	1	3
	S.	5	6	4	9	4	4	0	2	3	3	6	5
	SW.	16	12	17	**25**	21	14	13	12	16	14	17	14
	W.	**19**	**35**	**32**	24	**36**	**30**	**32**	**30**	**30**	**28**	**21**	**21**
	NW.	10	9	10	7	14	23	27	25	16	11	7	10
	Calm	26	21	23	16	12	19	18	22	27	29	32	25
4. *Steppe and Desert*													
Urfa‡ (7 yrs.' observations)	N.	14	11	9	9	11	11	6	11	12	9	15	15
	NE.	10	13	12	6	11	4	8	7	8	6	11	15
	E.	10	13	12	6	4	2	2	5	2	2	8	18
	SE.	9	11	14	12	4	4	3	3	4	8	17	9
	S.	3	7	6	7	2	2	4	2	6	5	3	7
	SW.	6	8	9	10	15	13	11	14	15	14	5	2
	W.	14	15	**19**	16	12	20	12	15	12	12	11	15
	NW.	**34**	**22**	**19**	**34**	**41**	**44**	**54**	**43**	**41**	**44**	**30**	**19**
	Calm	—	—	—	—	—	—	—	—	—	—	—	—

* Mean of observations taken at 0630, 1430, and 2030 zone time.
† Mean of observations taken at 0700, 1400, and 2100 zone time.
‡ Hours of observations not known.

TABLE 2. *Temperature (°F.)*

	Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
1. *Coast*													
*Alexandretta (8–11 yrs.' observations)													
Mean monthly	52	54	59	63	72·5	79	82	83	80·5	73	64	55	68
Mean daily max.	59	62	68	73	81	87	91	93	88	83	73	63	77
Mean daily min.	45	48	51	58	64	71	77	79	73	66	58	50	62
Mean monthly max.	67	71	79	87	91	93	97	98	94	91	81	71	85
Mean monthly min.	37	38	42	49	58	65	73	74	64	61	47	41	54
Absolute max.	80	79	84	100	99	100	104	103	103	97	85	80	—
Absolute min.	16	28	29	38	40	58	65	59	60	48	41	25	—
Beirut (50–62 yrs.' observations)													
Mean monthly	57	58	61	66	72·5	78	82	83·5	81	76	68	60·5	70
Mean daily max.	62	63	66	72	78	83	87	89	86	81	73	66	76
Mean daily min.	50	51	54	58	64	69	73	74	73	69	61	55	63
Mean monthly max.	70	73	80	86	90	90·5	91·0	91·5	90	89	82·0	74	86
Mean monthly min.	42	44	45	51	57	63	69	71	68	61·5	53	45	56
Absolute max.	79	87	97	99	107	106	98	99	99	101	94	84	—
Absolute min.	30	30	36	43	50	50	62	62	57	52	41	30	—
*Haifa (19 yrs.' observations)													
Mean monthly	57	58	62	67	73	78	82	83	81	76·5	68	60	70
Mean daily max.	65	66	72	76	83	86	88	90	88	85	79	68	79
Mean daily min.	49	50	52	58	65	70	75	76	74	68	60	52	62
Mean monthly max.	68	76	87	94	97·5	94·5	92	93	93	94	87	74	88
Mean monthly min.	41·5	43	45	50·5	56·5	65	70	72	68	60	51	44	55·5
Absolute max.	79	87	104	108	108	107	96	99	107	104	97	83	—
Absolute min.	29	37	36	44	53	58	67	69	64	57	48	32	—
2. *Mountains*													
El Kareya (10 yrs.' observations)													
Mean monthly	41	45·5	48	56	64·5	68	71	72	67·5	63	53·5	46	58
Mean daily max.	45	50	53	63	72	77	79	79·5	75	69	58	50	64
Mean daily min.	37	41	42	49	57	60	63·5	64	61	56	49	42	52
Mean monthly max.	57	63	67	83	86	86	86	87	84	80	70·5	59·5	76
Mean monthly min.	27	34	34	38·5	46	52	58	59	55	49	40	33	44
Absolute max	63	76	85·5	86·5	95	93	89	95	97	86	79	67	—
Absolute min.	21	28	26	32	40	45	54	56·5	51	45	27	25	—
Jezzin (2? yrs.' observations)													
Mean monthly	46	45	51	58·5	65	70	72	73	68	64	57	49	60
Mean daily max.	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean daily min.	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean monthly max.	52	51	59	67	74	77	81	82	79	75	64	57	68
Mean monthly min.	40	39	44	50	56	59	63	63·5	60	57	50	45	52
Absolute max.	66	70	79	93	92	91	93	94·0	94·5	90·5	84	71	—
Absolute min.	28	25	23	39	42	48	52	56	50	45·5	32	30	—
3. *Depression*													
Homs (3–4 yrs.' observations)													
Mean monthly	44·5	46	50	59·5	68·5	72·5	78	78·5	75·5	67·5	57	48·5	62
Mean daily max.	49	54	61	72	82	84	88	89	87	79	67	57	72
Mean daily min.	40	38	39	47	55	61	68	68	64	56	47	40	52
Mean monthly max.	62	60	71	88	95	96	95	100	97	91	77	66	83
Mean monthly min.	29	27	29	37	47	55	64	64	52	47	40	34	44
Absolute max.	63	62	75	90	97	99	98	103	98	95	77	68	—
Absolute min.	29	23	25	37	44	55	62	63	44	47	36	34	—

* These two towns are not in Syria, but lie so close to the N. and S. borders of the country that they might be taken to represent the towns of Latakia and Tyre.

TABLE 2—*continued*

	Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
3. *Depression* (cont.)													
Ksara (9–11 yrs.' observations)													
Mean monthly	*41*	44	49·5	57·5	63·5	70	75	**80·5**	72	66	55·5	47	60
Mean daily max.	51	53	61	69	78	84	86·5	**90**	86	79	66	55	71
Mean daily min.	*34*	37	39·5	46	52	56·5	61	61	57	52	45	38	47·5
Mean monthly max.	63	65	76	87	90	94·5	96	**98·5**	96	88	78	65	83
Mean monthly min.	*25*	26·5	31	36	42	48	52·5	53	48	44	35	27	39
Absolute max.	70	74	84	97	99	99·5	106	**108**	103	93	86	75	—
Absolute min.	*1*	12	19	32	36	43·5	48	50	45	39	30	20	—
4. *Steppe and Desert*													
*Aleppo (5–6 yrs.' observations)													
Mean monthly	*42*	45·5	51·5	61	69·5	77·5	88	**88·5**	76·5	67	51	49	65
Mean daily max.	50	55	65	74	84	93	97	**98**	92	81	67	54	76
Mean daily min.	*34*	36	38	48	55	62	69	69	61	53	45	38	59
Mean monthly max.	58	63	77	86	96	103	**107**	106	101	90	77	63	83
Mean monthly min.	*22*	23	27	35	44	53	64	68	48	46	32	26	45
Absolute max.	64	67	87	93	104·5	107	**115**	110	107	94	88	67	—
Absolute min.	*9*	14	19	28	32	48	61	59	44	41	27	18	—
Damascus (7–11 yrs.' observations)													
Mean monthly	*44*	46	53	58·5	69	78	**82**	76	72	65	56	47	62
Mean daily max.	51	55	64	73	82	92	95·5	**97**	91	80	66	56	75
Mean daily min.	*36·5*	37	42	47·5	55·5	62	64	62	58	53	46	39	50
Mean monthly max.	62	69	78	91	94	100	102	**105**	99	89	80	64	86
Mean monthly min.	*28*	30	31	38	46	53	56	57	52	48	37	31	42
Absolute max.	69	86	83	95	101	102	108	**113**	102	93	86	69	—
Absolute min.	*21*	23	27	32	44	48	55	55	48	42	28	23	—
Palmyra (5–8 yrs.' observations)													
Mean monthly	*44·5*	48·5	56	66·5	75	80·5	**85·5**	**85·5**	79·5	70·5	59	47	66·5
Mean daily max.	54	59	70	81	90	96	**102**	101	94	84	72	57	80
Mean daily min.	*35*	38	42	52	60	65	69	70	65	57	46	37	53
Mean monthly max.	62	69	81	97	101	106	109	**110**	105	94	85	67	90·5
Mean monthly min.	*25*	26	30	46	52	59	64	65	55	51	34	27	45
Absolute max.	64	73	87	99	107	108	**120**	117	111	98	96	71	—
Absolute min.	19	19	22	38	49	56	61	64	46	46	29	*18*	
Deir ez Zor (5–10 yrs.' observations)													
Mean monthly	*45*	48	52	66	76·5	85	**91·5**	89	82·5	71	59	48	68
Mean daily max.	53	58	70	80	92	99	**105**	104	97	86	72	58	81
Mean daily min.	*35*	38	42	52	61	70	78	76	68	56	46	37	55
Mean monthly max.	65	67	85	97	100	108	**111**	110	107	95	84	66	90·5
Mean monthly min.	*25*	27	31	42	53	60	70	71	54	50	33	27	45
Absolute max.	72·5	72	91	103	109	111	114	**115**	113	97	90	68	—
Absolute min.	*16*	17	24	37	46	45	67	60	48	42	24	17	—
*Urfa (7 yrs.' observations)													
Mean monthly	*40*	47	51	62	71	82	**89**	**89**	80	69	56	45	65
Mean daily max.	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean daily min.	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean monthly max.	53	60	71	82	91	101	**104**	**104**	95	87	73	59	82
Mean monthly min.	*27*	31	36	45	53	61	70	69	57	52	41	33	48
Absolute max.	59	69	83	89	97	106	**111**	109	102	91	79	62	—
Absolute min.	23	22	30	39	45	54	66	67	52	48	38	*19*	—

* This town is in Turkey, but it has a similar climate to that of Kamichlieh in NE. Syria.

TABLE 3. *Diurnal Range of Temperature (° F.)*

	Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*
Alexandretta	14	14	17	15	17	18	14	14	15	17	15	13
Beirut	12	12	12	14	14	14	14	15	13	12	12	11
Haifa	16	16	20	18	18	16	13	14	14	17	19	16
El Kareya	8	10	11	14	15	17	16	15	14	13	9	8
Jezzin	—	—	—	—	—	—	—	—	—	—	—	—
Homs	9	16	22	25	27	23	20	21	23	23	20	17
Ksara	17·5	16	20	23	25	27·5	26·5	29	30	29	23	18
Aleppo	16	19	29	26	29	31	28	29	31	28	22	16
Damascus	14·5	18	22	25·5	26·5	30	31·5	32	33	27	20	17
Palmyra	19	21	28	29	30	31	33	31	29	27	26	20
Deir ez Zor	18	20	28	28	31	29	27	28	29	30	26	21
Urfa	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 4. *Monthly Range of Temperature (° F.)*

	Jan.	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*
Alexandretta	30	43	37	38	33	28	24	24	30	30	34	30
Beirut	28	29	35	35	33	27·5	22	20·5	22	27·5	29	29
Haifa	26·5	33	42	43·5	41	29·5	22	21	25	34	36	30
El Kareya	30	29	33	45	40	34	28	28	29	31	30·5	26·5
Jezzin	12	12	15	17	18	18	18	18·5	19	18	14	12
Homs	33	33	42	51	48	41	31	36	45	44	37	32
Ksara	38	29·5	41·5	49·5	49·5	46·5	45·5	46·5	48·5	44	43·5	39
Aleppo	24	32	40	44	39·5	41	38	39	43	41	41	32
Damascus	34	39	47	53	48	47	46	48	47	41	43	33
Palmyra	37	43	51	51	49	47	45	45	50	43	51	40
Deir ez Zor	40	40	54	55	47	48	31	39	53	45	51	39
Urfa	26	29	35	37	38	40	34	35	38	35	32	26

TABLE 5. *Mean Relative Humidity*
(Percentages)

	Yrs.' obsns.	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Yr.*
1. *Coast*														
Alexandretta	2?	59	*58*	60	62	69	70	71·5	**75**	65	61	60	65	65
Beirut	62	70	71	71	**72·5**	71	70	70	71·5	68	*67*	68·5	69	72
Haifa	10	72	71	69	69	70	**72·5**	71	68	67	*66*	69	72	69
2. *Mountains*														
El Kareya	10	73	67	69	60	*57*	60·5	63	64	68	64	68	**74**	65·5
3. *Central Depression*														
Ksara	2–3	**76**	75	64	55	49·5	46·5	46	*44*	49	54	63	74	58
4. *Steppe and Desert*														
Selemiyeh	2?	83	80	72	61	50	*48*	50	52	55	60	74	**84**	64
Damascus	1	82	78	—	67	—	—	*49*	58	66	—	79	**86**	—
Deir ez Zor	2?	**80**	73	65	61	45	36	*29*	38	39	48	51	60	52
Urfa	7	50	**53**	48	43	36	29	*26*	28	29	34	49	50	40

TABLE 6. *Temperature and Humidity for Ksara in 1925*

	Temperature			*Relative Humidity*		
	Abs. min.	*Mthly. mean*	*Abs. max.*	*Abs. min.*	*Mthly. mean*	*Abs. max.**
January	10·4	35·6	53·6	18	79	100^{5}
February	24·8	42·8	64·4	6	60	100
March	33·8	53·6	84·2	9	55	95^{4}
April	32·0	53·6	84·2	11	55	95^{4}
May	39·2	64·4	93·2	10	42	100^{5}
June	44·6	68·0	91·4	13	44	93^{3}
July	51·8	75·2	96·8	9	44	100^{3}
August	51·8	75·2	95·0	13	41	100^{5}
September	50·0	71·6	96·8	6	44	100^{6}
October	44·6	62·6	87·8	22	60	92^{8}
November	39·2	57·2	78·8	21	64	96^{6}
December	33·8	50·0	73·4	18	75	97^{9}

* The coefficient indicates the number of times the maximum occurred during the month.

TABLE 7. *Number of Days with Fog**

	Yrs.' obsns.	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Total*
1. *Coast*														
Alexandretta	9	**1·0**	0·2	**1·0**	0·9	0·4	0·2	0·7	0·8	0·9	0·0	**1·0**	0·3	7·4
Beirut	24	0·04	0·0	0·08	0·2	**0·3**	0·08	0·0	0·0	0·0	0·0	0·0	0·04	0·74
2. *Mountains*														
El Kareya	5	0·0	0·4	0·2	0·6	0·2	0·4	**1·0**	0·8	0·6	0·2	0·0	0·0	4·4
3. *Depression*														
Homs	2–3	3·0	3·0	0·0	0·5	0·0	0·0	0·0	2·0	0·3	0·7	2·0	**5·0**	16·5
Ksara	9	**2·0**	0·2	0·0	0·2	0·1	0·2	0·1	0·6	0·3	0·3	1·0	1·0	6·0
4. *Steppe and Desert*														
Aleppo	5–6	3·0	2·0	1·0	0·3	0·2	0·0	0·0	0·0	0·0	0·7	3·0	**5·0**	15·2
Damascus	6–7	**2·0**	0·8	0·3	0·3	0·0	0·0	0·0	0·0	0·0	0·0	0·7	1·0	5·1
Palmyra	5–7	1·0	0·7	0·2	0·0	0·0	0·0	0·2	0·0	0·0	0·0	1·0	**2·0**	4·9
Deir ez Zor	5–7	2·0	1·0	0·3	0·0	0·0	0·0	0·0	0·0	0·0	0·3	2·0	**3·0**	9·6

* Fog not defined.

TABLE 8. *Cloud, Mean of Day* (Tenths)

	Yrs.' obsns.	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Yr.*
1. *Coast*														
Alexandretta	8–9	4·7	**4·9**	4·0	4·3	3·6	2·6	2·8	*2·2*	2·5	2·3	3·0	4·4	3·4
Beirut	61	**5·5**	5·4	4·6	4·1	3·1	1·5	*1·4*	1·7	1·9	2·7	4·1	5·2	3·4
Haifa	9	**5·2**	4·6	4·7	3·7	3·0	2·5	2·6	2·5	*2·1*	2·6	4·2	5·1	3·6
2. *Mountains*														
El Kareya	10	5·9	**6·2**	5·1	4·8	3·3	1·8	*1·6*	1·7	2·2	2·9	3·2	4·4	3·6
3. *Depression*														
Homs	2–3	**6·2**	5·7	5·8	4·6	3·0	1·1	0·7	*0·5*	1·0	2·9	4·8	6·1	3·5
Ksara	8–9	6·0	**6·2**	4·8	4·5	3·6	0·9	*0·2*	0·4	0·8	2·8	5·5	5·6	3·4
4. *Steppe and Desert*														
Aleppo	5–6	**6·7**	6·3	4·9	5·3	4·1	1·0	*0·3*	0·7	1·2	3·9	5·5	6·6	3·9
Selemiyeh	2?	6·0	**6·5**	4·0	3·5	3·0	0·8	0·1	*0·0*	1·8	2·1	3·7	5·0	3·0
Damascus	6–8	5·7	5·5	4·2	3·9	3·1	0·7	*0·2*	0·4	0·6	3·0	5·2	**5·8**	3·2
Palmyra	5–7	**5·6**	5·0	4·2	4·6	3·8	1·0	0·4	0·6	*0·3*	3·0	5·3	5·5	3·2
Deir ez Zor	5–8	5·2	**5·3**	4·4	4·6	3·2	0·6	0·6	*0·2*	0·5	2·8	4·7	4·9	3·0
Urfa	7	3·9	**4·7**	**4·7**	3·6	2·8	0·9	*0·4*	*0·4*	1·0	2·3	3·8	**4·7**	2·8

TABLE 9. *Overcast Sky and Type of Cloud in Relation to Wind Direction*

(Number of occasions per season. Period 1929–33)

BEIRUT

Type of cloud	*Time G.M.T.*	*N.*	*NE.*	*E.*	*SE.*	*S.*	*SW.*	*W.*	*NW.*	*C.*	*Total*
Winter (Dec.–Feb.)											
Low	0630	—	—	1	—	5	3	2	—	12	23
Low	1230	1	1	1	—	5	4	5	—	8	25
Low	1830	1	—	—	2	7	6	2	—	3	21
Mixed	0630	—	—	—	—	—	—	—	—	—	—
Mixed	1230	—	—	—	—	—	—	—	—	—	—
Mixed	1830	—	—	—	—	—	—	—	—	—	—
St. form	0630	—	—	1	—	5	3	2	—	10	21
Cu. form	0630	—	—	—	—	—	—	—	—	2	2
St. form	1230	1	1	1	—	5	4	4	—	8	24
Cu. form	1230	—	—	—	—	—	—	1	—	—	1
St. form	1830	1	—	—	2	7	6	2	—	3	21
Cu. form	1830	—	—	—	—	—	—	—	—	—	—
Spring (Mar.–May)											
Low	0630	1	—	—	—	1	2	3	—	3	10
Low	1230	1	1	—	—	1	2	3	—	3	11
Low	1830	—	1	—	—	1	2	3	—	2	9
Mixed	0630	—	—	—	—	—	—	—	—	—	—
Mixed	1230	—	—	—	—	—	—	—	—	—	—
Mixed	1830	—	—	—	—	—	—	—	—	—	—
St. form	0630	1	—	—	—	1	1	3	—	3	9
Cu. form	0630	—	—	—	—	—	1	—	—	—	1
St. form	1230	1	1	—	—	1	2	2	—	2	9
Cu. form	1230	—	—	—	—	—	—	1	—	1	2
St. form	1830	—	1	—	—	1	2	2	—	1	7
Cu. form	1830	—	—	—	—	—	—	1	—	1	2
Summer (June–Aug.)											
	0630	No overcast skies.									
	1230	1 St. form, SW. wind. 1 Cu. form, calm.									
	1830	1 Cu. form, SW. wind. 1 St. form, 1 Cu. form, calm.									
Autumn (Sept.–Nov.)											
Low	0630	—	—	—	—	—	1	1	—	2	4
Low	1230	—	—	—	—	1	2	1	—	1	5
Low	1830	—	—	—	—	1	1	1	—	2	5
Mixed	0630	—	—	—	—	—	—	—	—	—	—
Mixed	1230	—	—	—	—	—	—	—	—	—	—
Mixed	1830	—	—	—	—	—	—	—	—	—	—
St. form	0630	—	—	—	—	—	1	1	—	1	3
Cu. form	0630	—	—	—	—	—	—	—	—	1	1
St. form	1230	—	—	—	—	—	2	1	—	1	4
Cu. form	1230	—	—	—	—	1	—	—	—	—	1
St. form	1830	—	—	—	—	—	1	1	—	1	3
Cu. form	1830	—	—	—	—	1	—	—	—	1	2

TABLE 10. *Precipitation*

Rainfall (inches)

	Yrs.' obsns.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Coast														
Alexandretta	10–11	3·0	3·5	2·5	2·2	1·8	1·5	0·5	0·6	2·0	2·9	2·9	**3·9**	27·3
Beirut	61	7·3	6·4	3·5	2·2	0·6	0·1	0·0	0·0	0·2	1·9	5·1	**7·5**	34·8
Haifa	14	**7·1**	5·7	0·9	0·7	0·1	0·0	0·0	0·0	0·0	0·5	2·7	6·7	24·4
Mountains														
El Kareya	10	11·1	**13·7**	7·7	3·7	1·4	0·3	0·0	0·0	0·3	2·0	6·5	10·0	56·7
Depression														
Homs	6–10	**2·9**	3·3	1·0	1·0	0·2	0·0	0·0	0·0	0·04	1·0	1·8	2·0	13·4
Ksara	8–11	**5·6**	6·0	2·3	2·5	0·3	0·0	0·1	0·0	0·1	1·1	2·2	4·5	24·7
Steppe and Desert														
Aleppo	5–7	3·0	2·8	1·0	1·3	0·4	0·1	0·0	0·1	0·0	0·8	2·4	**3·2**	15·1
Selemiyeh	2?	2·4	**3·5**	1·6	1·2	0·8	0·2	0·0	0·0	0·0	0·4	0·5	2·2	12·8
Damascus	7–10	1·7	**2·1**	0·4	0·5	0·2	0·0	0·0	0·0	0·7	0·4	1·6	1·6	9·2
Palmyra	6–9	1·0	0·8	0·2	0·5	0·3	0·0	0·0	0·0	0·0	0·3	0·3	**1·1**	4·5
Deir ez Zor	5–10	**1·6**	1·0	0·3	0·6	0·1	0·0	0·0	0·0	0·0	0·2	1·5	1·0	6·3
Urfa	10	2·6	**3·0**	2·6	1·3	1·4	0·0	0·0	0·0	0·0	0·4	1·9	2·9	16·1

TABLE 11. *Mean Number of Rain-days**

	Yrs.' obsns.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Coast														
Alexandretta	9	9	**11**	8	7	5	4	2	2	5	6	8	9	76
Beirut	61	**15**	14	11	6	3	1	1	1	1	4	9	13	78
Haifa	14	**14**	13	5	4	1	0	0	0	0	2	6	11	56
Mountains														
El Kareya	10	**15**	12	14	7	5	2	0·2	0	1	6	10	12	84
Depression														
Homs	2–7	9	**11**	9	5	0·7	0·1	0	0	0·1	2	4	9	50
Ksara	8–11	**14**	12	9	6	3	0·7	0	0·1	0·9	3	8	11	68
Steppe and Desert														
Aleppo	5–7	**11**	**11**	7	4	2	0·5	0	0·2	0	3	7	**11**	56
Selemiyeh	2?	12	**15**	8	5	3	1	0	0	0	2	4	10	60
Damascus	7–8	**7**	6	2	3	0·7	0·1	0	0	2	2	5	5	33
Palmyra	5–8	**6**	4	3	3	1	0·3	0·3	0	0	3	4	**6**	31
Deir ez Zor	5–8	**6**	**5**	3	3	0·9	0·4	0·0	0	0	2	4	5	29
Urfa	7	8	9	**11**	9	6	1	0	0	1	3	8	9	65

* Rain-day is one with 0·008 inch rainfall or more.

TABLE 12. *Number of Days with Hail*

	Yrs.' obsns.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Coast														
Beirut	25	1·2	**1·6**	**1·6**	0·4	0·1	0·1	0·0	0·0	0·0	0·1	0·4	1·2	6·7
Mountains														
El Kareya	4	0·6	0·6	**3·6**	0·6	0·6	0·0	0·0	0·0	0·2	0·2	0·0	1·4	7·8

Table 13. *Number of Days with Snow*

	Yrs.' obsns.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Mountains														
El Kareya	4	**3·2**	2·0	1·6	0·2	0·0	0·0	0·0	0·0	0·0	0·0	0·6	2·4	10·0
Steppe and Desert														
Damascus	1	**2·0**	1·0	0·0	0·0	0·0	—	—	—	—	—	—	—	—

Table 14. *Number of Days with Thunderstorms*

	Yrs.' obsns.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Coast														
Beirut	25	2·7	2·7	2·4	1·2	1·1	0·2	0·04	0·0	0·6	2·4	**4·2**	3·4	20·9
Mountains														
El Kareya	4	0·4	1·6	3·2	1·0	0·8	0·6	0·0	0·0	0·4	2·8	**3·6**	2·4	16·8
Steppe and Desert														
Damascus	1	1·0	**6·0**	2·0	4·0	2·0	—	—	—	—	—	—	—	—
Urfa	7	0·0	0·4	1·0	2·0	**3·0**	1·0	0·3	0·2	0·6	0·8	0·3	0	9·6

Table 15. *Sea and Swell in Relation to Wind Direction*

Beirut

(Number of days per season. Period 1929–33)

	N.	NE.	E.	SE.	S.	SW.	W.	NW.	C.	Total
Winter (Dec.–Feb.)										
Calm or slight . .	3	2	2	1	6	6	6	0·8	21	48
Moderate. . .	2	1	1	1	7	5	4	1	3	25
Rough . . .	0·2	2	0·2	—	3	3	5	1	2	16
Spring (Mar.–May)										
Calm or slight . .	6	4	0·4	0·4	3	12	10	3	19	58
Moderate. . .	2	1	—	0·2	2	8	7	1	1	22
Rough . . .	1	0·2	—	—	1	4	5	0·8	—	12
Summer (June–Aug.)										
Calm or slight . .	3	0·2	—	0·4	2	31	13	8	7	65
Moderate. . .	0·6	—	—	—	1	15	4	0·8	—	21
Rough . . .	0·6	0·2	—	—	0·4	3	2	0·6	—	7
Autumn (Sept.–Nov.)										
Calm or Slight . .	4	5	1	1	0·6	11	7	9	23	62
Moderate. . .	1	1	0·4	0·2	1	4	3	5	3	19
Rough . . .	2	2	0·2	0·2	0·8	1	2	2	0·6	11

The authorities for the tables will be found in the Bibliography.

APPENDIX C

PLANTS OF ECONOMIC IMPORTANCE

1. *Trees and Shrubs*

Terebinth (butm), Pistachia Palestina.

Pistachio (fistuk baladi or fistuk karmidi), Pistachia vera.

Maples (kaikob), several species, of which Acer monspessulanum and A. syriacum are the most important.

Pride of India (zinzilukht), Melia azedarach. A favourite shade tree in Syria; the wood used for house timber and fuel.

Jujube (ennab), Zizyphus vulgaris, the berries are eaten and the wood is used as fuel.

Christ Thorn (nabk or sidr), Zizyphus spina-Christi. Used for fuel.

Lotus (nabk), Zizyphus lotus. Fuel.

Carob (kharrub), Ceratonia siliqua. A fine shade tree; cultivated also for its pods, 'locust' or St. John's Bread, out of which a kind of syrup is made, and for its timber.

Acacia. Several species of Acacia have been introduced, especially from Australia, as shade trees and for their wood.

Hawthorn (zarur). Several species of Crataegus. The fruits of C. azarolus are edible and make a delicious jelly.

White broom (ratam), Retama raetam.

Strawberry trees, Arbutus unedo (katlib) and A. andrachne (kaykab). The berries of the former are edible.

Storax (hauz or abhar), Styrax officinalis. The resin is the storax used in medicine.

Sumach (simmak), Rhus coriaria. The fruit, bark, and young leaves are used in tanning and dyeing.

Tamarisk (tarfa or athl), several species of Tamarix, especially T. syriaca, T. tetragyne, and T. pallasii.

Ash (dardar), Fraxinus syriaca. Highly valued for building purposes and for fuel.

Box, Buxus longifolia. Wood used in the arts.

Nettle tree (meis), Celtis australis. Good timber.

Plane tree (dilb), Platanus orientalis. A fine timber tree, especially common along watercourses.

Oaks, Quercus spp., used for timber, fuel, and tanning: evergreen oaks, Q. calliprinos and Q. palaestina (sindiyan); zéen oaks, Q. infectoria and Q. syriaca (mell, mellul, ballut); valonia oak, Q. aegilops (luk); lebanon oak, Q. libani (sindiyan).

Hop hornbeam, Ostrya carpinifolia. Used for fuel.

Willows (safsaf), species of Salix, especially S. alba, white willow;

S. babylonica, weeping willow; and S. fragilis, the crack willow. Twigs used for basket-making.

Poplars (haur), species of Populus, especially P. alba, white poplar; P. euphratica, the Euphrates poplar; P. nigra, black poplar; P. pyramidalis, pyramidal poplar.

Pines. Stone pine (snaubar berri), Pinus pinea, with a fine spreading branch system. The timber much used in building. Aleppo pine (arz or snaubar juwwi), P. halepensis; the most widely distributed pine of Syria.

Cedar (arz Libnan or ibhul).

Cypress (sarueh), Cupressus sempervirens; the wild tree (var. horizontalis) has spreading branches, the commonly cultivated tree (var. pyramidalis) has nearly erect branches and a general pyramidal outline to the canopy.

2. *Fruit-trees and Shrubs*

Grape (enab), numerous varieties of Vitis vinifera are cultivated, some even to 6,000-feet altitude.

Oranges are widely cultivated in the coastal plain, including the common orange (burtukan), Citrus aurantium; the bitter or Seville orange (naranj, abu sfeir), C. bigarada; and the mandarin (yusuf effendi), C. madarencis.

Lemons. The common lemon Citrus limonum (leimun hamidla) and its variety var. dulcis, the sweet lemon (leimun helu), are cultivated.

Citron (kibbad), Citrus medica.

Cherry (karaz), Prunus cerasus, cultivated from Homs northward.

Plum (khaukh), Prunus domestica, in many varieties.

Bear or sour plum (khaukh ed dib, barkuk), Prunus ursina, of which the fruit is edible and the wood makes good fuel. Extremely common in some of the mountain areas.

Pear (ijjas or najas), Pyrus communis, and the wild Syrian pear, P. syriaca, with small scarcely edible fruits.

Apple (tiffah), Malus communis, in many, often poor varieties.

Quince (sferjel), Cydonia vulgaris, in several varieties.

Apricot (miskmish), Prunus armeniaca. Good varieties include lozi, kelabi, and farisi.

Peach (derrakin), Prunus persica, in inferior varieties. The smooth-fruited variety, the nectarine, is cultivated at Damascus.

Medlar, Pyrus germanica, is cultivated in northern Syria.

Gooseberry, Ribes orientalis, grows wild in the higher parts of Lebanon and Antilebanon.

Fig (tineh), Ficus carica, has numerous varieties.

Sycamore fig (jummiez), Ficus sycomorus, has a poor dry fruit.

Indian or Cactus fig (subbeir), Opuntia ficus-indica.

Pomegranate (rumman), Punica granata.

Persimmon, Diospyros (kaki), is cultivated in northern Syria.

Mulberries. The white mulberry (tut), Morus alba, is cultivated for silkworms and the leaves are used as fodder for cattle; the wood is much used in the arts and as fuel. The black mulberry (tut shami), Morus nigra, is cultivated for its fruit and for timber.

Olive (zeitun), Olea europaea.

Date (balah), Phoenix dactylifera, is cultivated in several varieties, the pressed dried fruit is called kuttah.

3. *Nut-trees and Shrubs*

Pistachio (fustuk), Pistachia vera.

Almond (loz), Amygdalus communis. The wood is much used in building.

Walnut (joz), Juglans regia, a fine shade tree often growing near springs, fountains, and streams.

4. *Forage Plants, other than Native Grasses and Legumes*

Lucerne (kutat), Medicago sativa.

Vetch (bakiyeh), Vicia sativa.

Bitter vetch (kersenneh), Vicia ervilia.

Alexandrian clover (bersim), Trifolium alexandrinum.

Sainfoin, Onobrychis sativa.

5. *Pulses, Cereal Grains, &c.*

Fenugreek (hilbeh), Trigonella foenum-graecum.

Chick-pea (hummus), Cicer arietinum.

Bean (ful), Vicia faba.

Lentil (adas), Lens esculenta.

Pea (bisallah), Pisum sativum.

Sesame (simsim), Sesamum indicum.

Barley (shair; kosileh, when cultivated as a fodder crop), Hordeum vulgare and H. distichum.

Oats (sheifun), Avena sativa, sparingly cultivated in the northern districts.

Wheat (kamh), Triticum species and varieties.

Sorghum (dhura beida), Sorghum vulgare.

Maize (dhura safra), Zea mays.

Millet (dukhn), Panicum miliaceum.

Rice (ruzz), Oryza sativa.

6. *Industrial Plants*

Cotton (kutn), Gossypium spp.

Flax (kittan), Linum usitatissimum.

Hemp (kinnab), Cannabis sativa.
Indigo (nil), Indigofera tinctoria.
Madder (fuwweh), Rubia tinctoria.
Tobacco (tabagh, titun, timbek), Nicotiana species and varieties.

7. *Medicinal Plants*

Opium poppy (khishkhash), Papaver somniferum.
Marsh Mallow (khitmiye), Althaea officinalis.
Liquorice (urk es sus), Glycyrrhiza glabra.
Senna, Cassia obovata (sena mekki) and C. lanceolata (sena saidi).
Colocynth (hondhol), Citrullus colocynthis.
Henbane (benj), Hyoscyamus aureus.
Castor oil plant (kharwa), Ricinus communis.
Squill (basal el-far), Urginea scilla.

8. *Aromatic Plants*

Cummin (kammun), Cuminum cyminnum.
Caraway (karawiyeh), Carum carui.
Dill (shibith), Anethum graveolens.
Fennel (shumar), Foeniculum vulgare vars.
Origanum (zatar), vars.
Mint (naha), Mentha species and varieties.
Thyme (zatar), Thymus syriacus.
Rose (ward), Rosa damascena. Attar of roses is distilled from it.

9. *Vegetables*

Watercress (jerjar, reshad), Nasturtium officinale.
Cabbage (melfuf), Brassica oleracea var. capitata.
Cauliflower (karnabit), Brassica oleracea var. botrytis.
Turnip (lift), Brassica rapa.
Radish (fijl), Raphanus sativus.
Caper (kabbar), Capparis spinosa.
String bean (lubiyeh), Vigna sinensis.
Kidney bean (lubiyeh franjiyeh), Phaseolus vulgaris.
Marrow (kosa), Cucurbita pepo.
Cucumber (khiyar), Cucumis sativus.
Pumpkin (jelant), Cucurbita maxima.
Melon (batikh asfar), Cucumis melo.
Water melon (batikh akhdar or ahmar), Citrullus vulgaris.
Parsley (bukdunis), Petroselinum crispum.
Carrot (jezar), Daucus carota.
Lettuce (knass), Lactuca sativa.
Saffron (zafaran), Carthamus tinctorius, used for colouring rice, &c., in cooking.

Tomato (banadura), Lycopersicum esculentum.
Potato (batata), Solanum tuberosum.
Egg-plant (betinjan), Solanum melongena.
Spinach (sebanekh), Spinacia oleracea.
Beet (shemandur), Beta vulgaris.
Colocasia (kolkas), Colocasia esculenta.
Onion (basal), Allium cepa.
Garlic (tum), Allium ursinum.
Asparagus (halyun), Asparagus officinalis.
Hibiscus or lady's fingers (bamiyeh), Hibiscus esculentus.

APPENDIX D

MEDIEVAL CASTLES IN SYRIA

During the Crusades castle-building played a great part in the subjection and defence of Syria. Between Aleppo and the Orontes numerous border castles frequently changed hands and mark the advance and retreat of the opposing forces. From the time of the First Crusade the Jebel Ansariyeh, stretching from the neighbourhood of Antioch to the plain of Bukeiah, was already a nest of castles. They guarded the approaches to the hills from the cities on the coast and from the cities of the eastern steppes, and protected also the roads across the mountains. Kalaat el Mehelbeh (Balatonos), Sahyun, and Kalaat esh Shoghur guarded the main road from Latakia to Aleppo. The great castle of Kalaat el Hosn (Krac des Chevaliers) commanded the eastern entrance to the plain of Bukeiah, and dominated both the Tripoli–Homs gap and the plain towards Homs. The southern end of Mount Lebanon, which was not penetrated by the Crusaders, was ringed by strong castles, especially the roads leading into the hills from the Bekaa; Kalaat esh Shekif or Belfort and Kalaat Marun were amongst the more important, while the castle of Kalaat es Subeibeh (Baniyas) in Hermon defended the entrance to the Jordan valley and Palestine. These castles, which were often Byzantine or Moslem strongholds by origin, were greatly strengthened and extended by the Crusaders.

The whole of Jebel Ansariyeh is studded with medieval castles, often covering earlier foundations; they are conspicuous landmarks and give their names to the peaks and spurs on which they stand. Their strategic functions included defence against invasion from the sea or the eastern steppes, protection and control of the highways, and the provision of local strongholds; they are often within signalling distance of each other (*see* Fig. 67). A few of the remains cover very considerable areas, and within some of them villages have been built.

Whereas the Crusader castles are evenly distributed throughout the Ansariyeh area from Tripoli to Antioch, in the Lebanon they are found only north and south of the main massif and at some of the ports: in the north they guarded the opening of the Tripoli–Homs gap and belong to the Ansariyeh system; in the south they defended the approaches to Palestine and were the northern outposts of the Latin Kingdom of Jerusalem.

A third group of castles in the Aleppo province represents the Frankish advance towards Aleppo and the Moslem resistance. Their history belongs to the Principality of Antioch rather than to the county of Tripoli; substantial remains exist only at Aleppo, and therefore only a brief reference has been included.

Historical background

The following details of the Crusading period (summarized above, p. 130) may help to classify the history of the individual castles. The first Crusade (1096–9) established the Principality of Antioch in northern Syria under the Norman *Bohemond* of Taranto and his nephew *Tancred*; this included the northern Ansariyeh down to the latitude of Baniyas. South of this came the County of Tripoli, held by the Provençal knight *Raymond of Saint Gilles*. Palestine and the southern fringes of the Lebanon became the kingdom of Jerusalem, ruled by *Godfrey of Bouillon* and after him by his brother *Baldwin*, who had also created a principality in the Jezireh at Edessa (Urfa). These princes and their successors—later Baldwins, Raymonds, Bohemonds, and others—were first checked and eventually driven out by a series of Moslem rulers, who united central Syria against the Franks. The first was *Imad ed Din Zangi* (1127–46), who eliminated the principality of Edessa. His son *Nur ed Din* carried on his father's work (1146–74) and joined central Syria and Egypt together. Sala ed Din or *Saladin* (1174–93), who displaced the dynasty of Zangi, drove the Franks in the kingdom of Jerusalem back upon the coast, but the dominions of Antioch and Tripoli maintained their strength, thanks to the great castles. At this time the two military orders of the Templars and the Hospitallers of St. John took over many of the castles and were a mainstay of the Frankish resistance, which was also strengthened from time to time by the five later Crusades under such leaders as Louis VI and Louis IX of France, and the Englishmen Richard Lion Heart and Edward III. The history of the County of Tripoli is complicated also by the expansion of the Ismaili sect under *Rashid ed Din Sinan* (*c.* 1142–93), known as the Old Man of the Mountain; they occupied the district around Masyaf and Kadmus and were generally at loggerheads with the Franks.

After Saladin the Franks were not greatly troubled till the invasions of the Egyptians under the Emir and later Sultan *Beibars* (1244–88), who destroyed the Principality of Antioch. The County of Tripoli held out longest as a whole, but fell to *Kalaun*, the son of Beibars, between 1285 and 1289. It was Kalaun's son *Khalil* who ended the crusading interlude by sacking Acre in 1291.

The following are the most important of the castles of western Syria roughly in order from north to south.

The Ansariyeh

1. *Kalaat esh Shoghur* (Shoghur Bakas) lies almost 4 miles north-west of Jisr esh Shoghur on the Orontes. It is a double castle consisting of two fortresses on either side of a saddle-back which lies in the centre of a very narrow ridge; this has precipitous slopes on every side except where it is isolated from the main mountain by a wide and deep fosse. The twin fortresses, Bakas to the south, Shoghur to the north, are separated by a

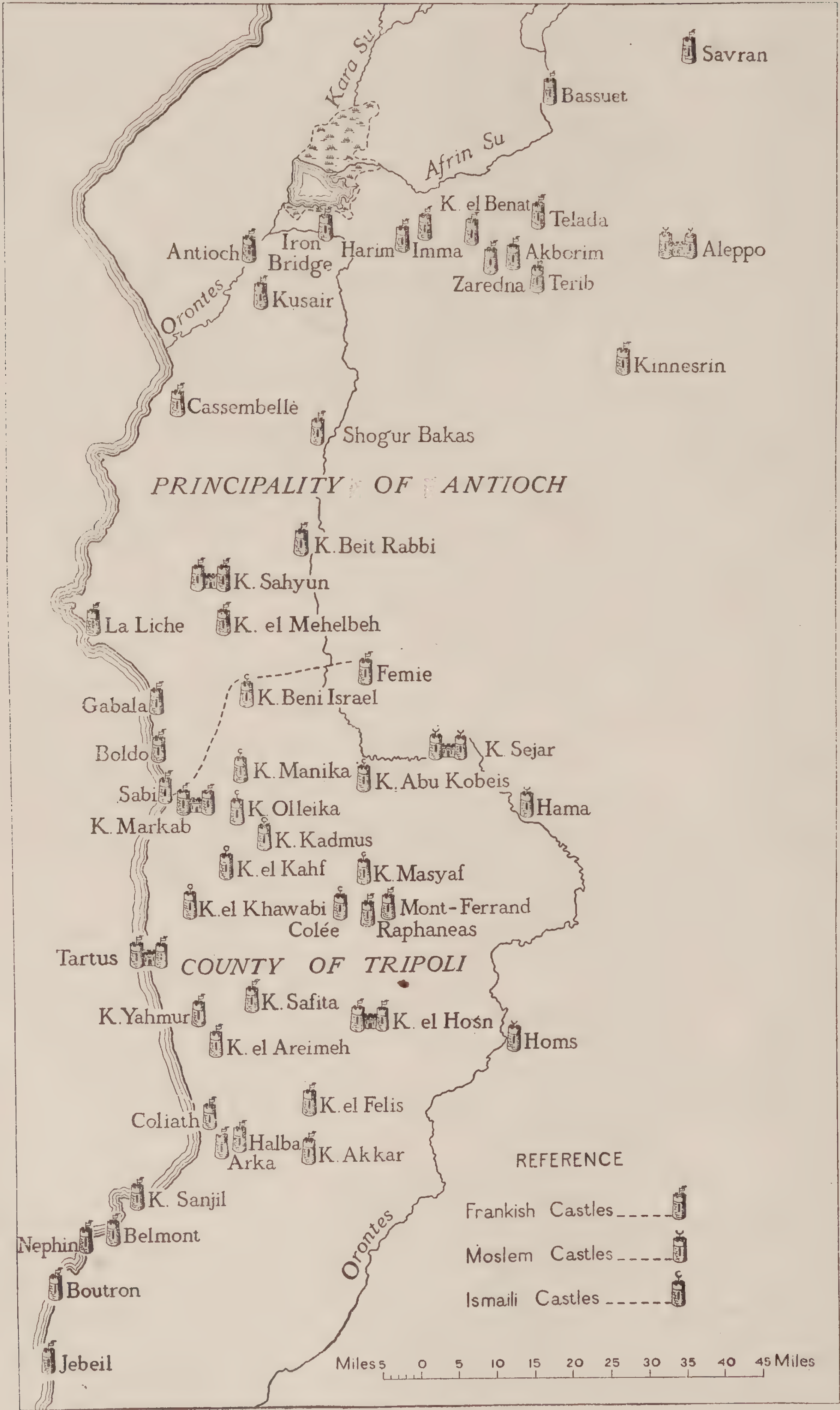


Fig. 67. *Medieval castles of the Ansariyeh and northern Lebanon*

level stretch of ground fringed by two small fosses. To north and east the castle looks over the Nahr el Abyad, and westwards towards a valley which leads to the village of Shoghur el Kadim. Little is known of the history of the place before Saladin took it from the Franks in 1188.

2. *Kalaat Beit Rabbi* (Château de Bourzey) is 11 miles south-south-west of Jisr esh Shoghur, on the eastern slopes of the Ansariyeh ridge, just below the main crest. It stands on a rocky ridge with precipitous slopes, especially to the north. It was seized by the Franks after the fall of Latakia, in order to protect their communications with Apamea (Kalaat el Mudik), but was lost to Saladin in 1188.

3. *Kalaat Sahyun* (Saône of the Crusades) lies 18 miles east-north-east of Latakia. It stands at a height of 1,440 feet on a narrow, isolated spur of Jebel Darius, bounded on two sides by deep ravines, which meet at the western point of the tongue of land. The escarpments overlooking these ravines fall almost perpendicularly to the streams below, and on the third or eastern side the defence of the fortress is provided by a deep fosse, 50 feet wide, cut in the rock, and isolating the castle from the spur beyond. The origin of the stronghold is remote. The Franks probably gained possession early in the twelfth century, but Saladin captured it in 1188 and it remained in the hands of the Moslems.

4. *Kalaat el Mehelbeh* (Balatonos) lies 17 miles east-south-east of Latakia at a height of 2,575 feet, on the summit of a mountain which lies opposite Jebel Arbain (2,554 ft.). The site is oval and its east–west axis is about 220 yards long. The castle was captured by Roger of Antioch in 1118, who handed it over to Robert, the overlord of Sahyun; he held it until 1188, when it fell to Saladin three days after the capture of Sahyun. The castle dominates the pass between Jebel Arbain and the mountain on which it stands, which is taken by the route from the coast road to Jobet Borghal, a large Alawite village.

5. *Kalaat Beni Israel* (Bikisrail) is 12 miles east of Jebeleh, at a height of 1,640 feet. It stands on a wooded hill-top which is accessible only by a winding path, and it was built in two portions, the higher of which is to the north. This castle was probably the 'château de la vielle' (*castellum vetulae*) of the Crusaders which was taken in 1111 by Tancred and ceded to the Hospitallers by the Prince of Antioch in 1210. Temporarily it was held by Rashid ed Din Sinan and Saladin.

6. *Kalaat Manika* (Ksabiyeh) is 10 miles north-east of Baniyas on the southern side of Jebel Jerrama (3,613 ft.), which dominates the Nahr Hureisun valley. The castle stands on a rocky escarpment above the confluence of two deep ravines and is isolated on all sides except the north-east, where it joins the main ridge of Jebel Jerrama; a fosse was cut in the rock here. Kalaat Manika belonged to Rashid ed Din Sinan; Bohemond III, Prince of Antioch, gave it to the Hospitallers.

7. *Kalaat Abu Kobeis* lies 22 miles east-north-east of Baniyas on the main eastern ridge of Jebel Ansariyeh, overlooking the village of Ain el

Jurd. It was used by the Franks as a watch-tower over against the Arab castle at Sejar.

8. *Kalaat es Sejar* is about 14 miles north-west of Hama, on the south or left bank of the Orontes. It stands at a height of about 700 feet on the crest of a narrow, rocky spur projecting northward, and is bounded on the east by the deep and precipitous Orontes gorge, and on the north and west by rock precipices. On the south the spur is isolated by a deep and wide fosse. In shape it is a narrow parallelogram measuring about 550 yards by 50 yards, dominating the river and the plain. The remains have largely disappeared except on the north and south, and the site is now occupied by a modern village. The Franks continually tried to gain possession of the castle, especially after a great earthquake in 1157, when Nur ed Din dislodged them from the ruins.

9. *Kalaat Ollaika* lies 10 miles east of Baniyas on a flat-topped hill whose slopes fall precipitously to the ravines below. The castle is built on a ridge shaped as an isosceles triangle, and the interior is occupied by a modern village. It was retaken from the Franks about 1190 by Rashid ed Din Sinan.

10. *Kalaat Markab* (Margat of the Crusades), a coastal fortress 2 miles south-east of Baniyas, is on the summit of a volcanic hill, 1,150 feet high, close to the sea. The site commands a very extensive view, and during the time of the Crusades was an important signal station, as well as a stronghold and refuge. Opinion varies as to the date of its capture by the Crusaders, which some place in 1117–18, others as late as 1140. It became one of the most important fiefs of the principality of Antioch, but was ceded by the family of Mansoer to the Hospitallers in 1186. It was taken by Kalaun in 1285.

11. *Kalaat Kadmus* stands at a height of 2,780 feet, 14 miles south-east of Baniyas, on a small triangular plateau formed by the confluence of two streams, above the town of Kadmus. On each side, except the north, the site is bounded by deep ravines. Bohemond II gained possession of the castle, which passed to the Hospitallers in 1186. The fortress was destroyed by Ibrahim Pasha in 1838.

12. *Kalaat el Kahf* lies 6 miles south-west of Kadmus on a rocky east–west ridge, and at the confluence of three deep and narrow valleys, tributaries of the Nahr Meshrut. Its greatest axis is about 330 yards long, and it is 55–65 yards at its widest. The entrance is through a gateway tunnelled in the rock, hence its name (*kahf*, cavern). The castle was one of the strongholds of Rashid el Din Sinan during the Crusades, and was the last of the Ismaili castles to be taken by Beibars in 1273.

13. *Kalaat Masyaf* is 11 miles east-south-east of Kadmus at a height of 1,670 feet, on a high and almost perpendicular rock 50 feet above the level of the village of Masyaf, and at the foot of the highest point of Jebel Masyaf, which rises precipitously on the north. The castle is oval in plan with its axis oriented north to south. For history, *see* p. 228.

14. *Kalaat el Khawabi* (Coïble of the Crusades), 9 miles north-east of Tartus, stands on a rock above which mountains tower on all sides for 1,300–1,600 feet; the only access is by a path which winds up the almost perpendicular slope from the Nahr Husein. It is an Ismaili fortress dating from 1160.

15. *Tartus* (Tortosa of the Crusades). The Templars' castle, dating from the end of the twelfth and thirteenth centuries, is in the north-west of the old town, separated from it by a large fosse which is crossed by a chaussée leading to the only entrance of the fortress. Its strategic value was that it guarded the coastal route from the County of Tripoli to the principality of Antioch. For history, *see* p. 316.

16. *Kalaat Yahmur* (Chastel-Rouge of the Crusades) is 11 miles south-east of Tartus in the western foothills of Jebel Ansariyeh and probably marks the site of an older building. The castle was a dependency of the Templars of Tartus. It was taken by Sultan Kalaun in 1289.

17. *Kalaat Safita* (Chastel-Blanc of the Crusades) lies 16 miles south-east of Tartus, half-way between it and the great castle of Kalaat el Hosn (19). The castle is on the summit of a conical hill (1,510 ft. high) which was built up into a terrace with heavy masonry walls about 40 feet high. The hill, an outlying spur of the Ansariyeh, rises over 2,000 feet above valleys which isolate it to north and south, while narrow and lower ridges connect with the nearest hills on the east and west. The site is an elongated octagon, 172 paces east to west and 140 paces north to south. Under the terrace there are huge vaults, and on it, near the east end, stands a lofty tower. The castle had wide views in all directions and commanded the pass and mountain road from Tartus to Homs (Route 11; *see* p. 347); it was also a signal station in communication with Kalaat el Hosn, Kalaat el Areimeh, and Tripoli (18, 19, 21). For history, *see* p. 231.

18. *Kalaat el Areimeh* (Arima of the Crusades), 15 miles south-east of Tartus, lies beneath the main Ansariyeh on the northern side of the plain of Akkar. It is at the summit of an oval hill 560 feet high, oriented north-east to south-west, which falls steeply on the north and south down to tributaries of the Nahr Abrash. With Kalaat Akkar (20) on the southern side of the plain it commanded the entrance to the Tripoli–Homs gap. It belonged to the Templars.

19. *Kalaat el Hosn* (Krac des Chevaliers) is the greatest and best preserved of all the Crusader castles in Syria. It stands out from the middle of the southern slopes of the Ansariyeh, 6½ miles north-north-east of Tell Kalakh, and commands the narrowest part of the Tripoli–Homs gap. The castle stands on the ridge of Jebel Khalil at a height of 2,300 feet, and is isolated from the main chain except on the west. To the north a deep east–west valley cleaves the ridge almost to its base; eastwards the mountain slopes fall abruptly to the plain of Bukeiah. Strategically the hill on which Krac des Chevaliers stands has been one of the most important points in Syrian history; it is the southernmost elevated point of the range,

and any fort on its summit commanded the route from the coast to Homs and Hama. The occupation of the castle by the Franks dates from about 1110; in 1142 Raymond of Tripoli handed it over to the Hospitallers. Nur ed Din in 1163, and Saladin in 1187, tried unsuccessfully to capture the castle, which throughout the first half of the thirteenth century remained a base for expeditions against the Moslems. In 1271 Beibars besieged the fortress, which at last capitulated.

The Lebanon

20. *Kalaat Akkar* lies 27 miles north-east of Tripoli, on the northern slopes of Jebel Akkar, south-east of Kalaat el Areimeh. It is built on a narrow rocky spur, 2,745 feet high, and is only about 165 yards long from north to south. Both to the west and east it is isolated by deep gorges which carry torrents that unite on the north to form the head-waters of the Nahr Akkar. To the south a fosse separates the castle from the main mountain ridge. The Franks gained possession of Kalaat Akkar by treaty after they took Tripoli in 1109. It was recovered by Nur ed Din, but recaptured in 1170, when it was handed over to the Hospitallers. After the capture of Krac des Chevaliers in 1271, Beibars beseiged and took the fortress.

21. *Kalaat Sanjil*, or Château de Raymond de Saint-Gilles, the castle of Tripoli, lies on the west or left bank of the Nahr Abu Ali in the south-east of the town. The castle was built on the summit of a mound which rises gently on the west, but falls steeply on the east to the Nahr Abu Ali. For history, *see* p. 308.

22. *Jebeil.* *See above*, p. 320.

23. *Kalaat el Bahr* at Sidon is built on a rocky islet in the sea and is linked to the mainland by a narrow causeway. It was erected by the Crusaders to command the entrance to the northern harbour. It resisted an attack by the Moslems in 1253, but the Franks evacuated the town in 1291 after the fall of Acre. *See* p. 322.

24. *Kalaat el Mezzeh*, or Château de Saint Louis, also at Sidon, stands on the promontory which divides the two harbours, and so dominates the whole town. The castle was built by the Crusaders during the first occupation of the town in the twelfth century, and (Saint) Louis IX of France is reported to have stayed there for a considerable time. *See* p. 322.

25. *Kalaat esh Shekif*, or Château de Beaufort, is 20 miles east-north-east of Tyre, 2 miles south of the Sidon–Merj Ayun road. It stands on the summit of a cliff where the Litani makes a right-angled bend towards the sea; on the east the hill falls precipitously for more than 1,500 feet to the gorge below, and on the western site slopes steeply to the village of Arnun. The fortress was built as an elongated triangle, roughly 165 yards long and 100 yards at its widest. The eastern end overlooking the Litani is lower, while the western end, built on the summit of the rock, is higher

and formed the redoubt: on the south and west side is a deep fosse. The castle commanded a wide view and was within easy signalling distance of Kalaat es Subeibeh (Baniyas) and Kalaat Tibnin (26, 27). Beaufort was

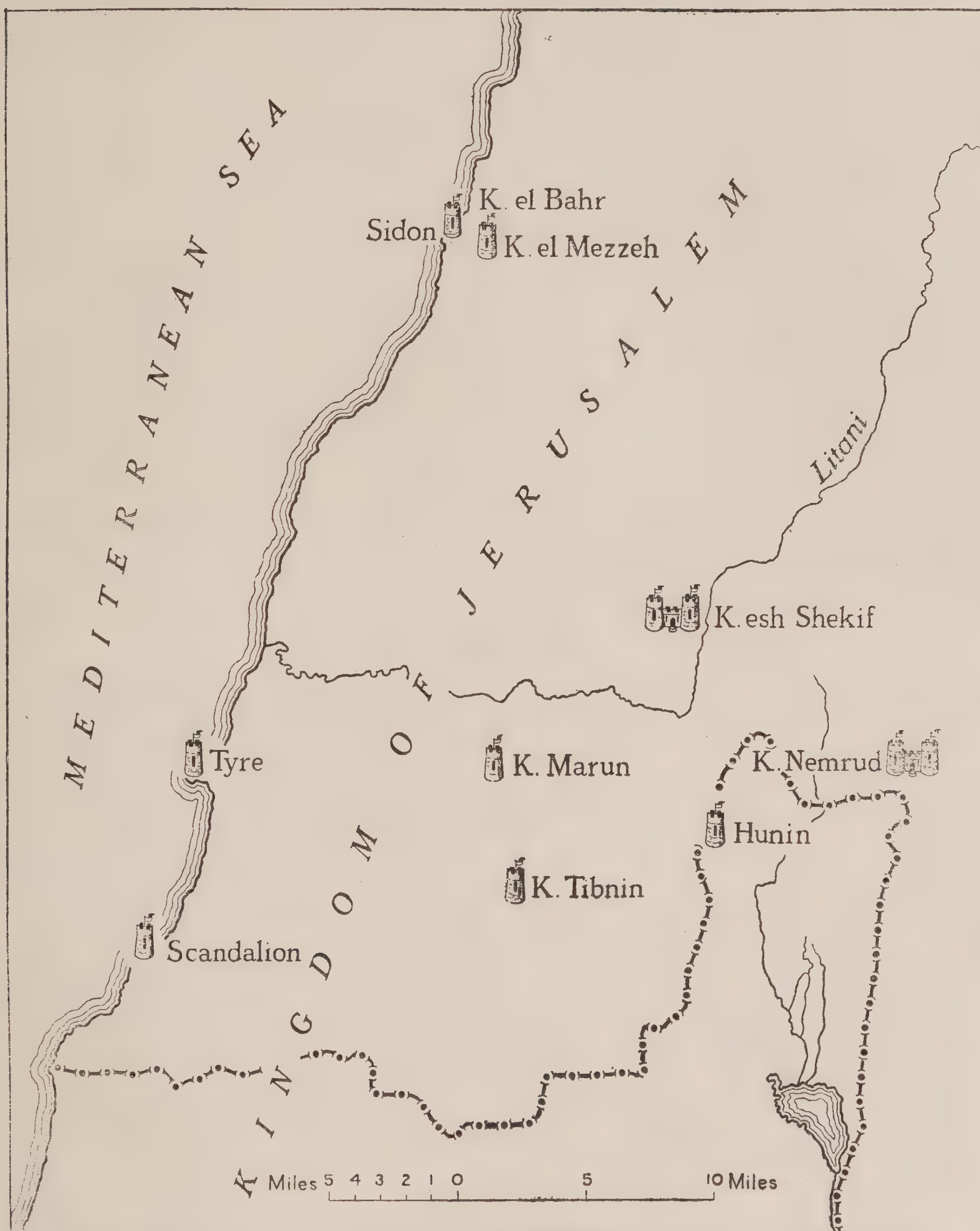


FIG. 68. *Crusader castles of southern Lebanon.*

captured by the Franks in 1139 and formed part of the principality of Sayette (Sidon). In 1193 it was retaken by Saladin after a long siege, but was restored to the Franks in 1240, who handed it over to the Templars in 1260. Beibars besieged and took Beaufort in 1268.

26. *Kalaat Marun* is 13 miles east of Tyre on the top of a hill whose steep slopes are terraced for cultivation: to the east lies a deeply incised river valley, a tributary of the Litani.

27. *Kalaat Tibnin* (Toron of the Crusades) is 14 miles east-south-east of Tyre and east of the Mitwali village of Tibnin. The castle was built by Hugues de Saint Omer in 1104 on the top of a rounded and isolated hill. It was taken by Saladin in 1187 and, after an unsuccessful attempt in 1197, retaken by the Franks in 1229. Beibars gained possession in 1268.

28. *Kalaat Nemrud* or *Kalaat es Subeibeh* stands on the summit of a hill to the east of the village of Baniyas in the foothills of Mt. Hermon. It occupies a commanding position with the whole stretch of the Huleh depression, the Litani gorges, and the highlands of Galilee visible to the south and west, while to the north-west a deep gorge separates it from the main slopes of Hermon. The castle forms an elongated isosceles triangle with the apex to the north-east and the base to the south-west. To the north-west the hill falls almost perpendicularly to the Wadi Khashabeh. Kalaat es Subeibeh was taken by the Franks in 1130, but lost two years later. In 1139 they regained it and successfully resisted sieges in 1154 and 1157, but in 1164 Nur ed Din conquered the castle, and in spite of later attempts by the Franks they never recaptured it.

Aleppo Province

29. *Harim* (Castrum Harench) was an outpost of the principality of Antioch on Jebel el Ala above the Antiochene plain. For the site and ruins, *see* p. 224.

30. *Kasr el Benat* (Castrum Puellarum) controlled the route from Antioch to Aleppo through the Ain Delfi valley. There was also a great monastery here of Byzantine date, the ruins of which are still impressive.

31. *Terib* (Atharib), in the plain 20 miles south-south-west of Aleppo, on a tell 150 feet above the plain, represents the most easterly advance of the Franks towards Aleppo. It often changed hands between 1110 and 1120. Finally Zangi destroyed the post in 1130.

32. *Aleppo citadel*, on the tell in the centre of the city (above, p. 211; Plates 101–4), was built originally by the son of Saladin, El Malek ez Zahir; the castle was dismantled by the Mongols in 1258 (*see* p. 131) and rebuilt by Sultan Khalil and others in later time.

APPENDIX E

EVENTS SINCE 1939

The Syrian Campaign, 1941

The Allies intervened in Syria to put an end to the occupation of Syrian airfields by the Germans and Italians who had secured the use of these grounds from the French Government in an attempt to assist the pro-German rebellion of Raschid Ali in Iraq. The invasion, which began on 8 June, followed the natural lines of communication, and the success of the different columns was proportionate to the difficulty of these routes rather than to the strength of the defending forces. The main drive came from the south, where the French defences were based on Kiswe and the line of hills covering Damascus, on four villages—Jezzin, Rashaya, Merj Ayun, and Hasbaya—in the broken country south of the Bekaa, and on the coast road at Sidon. Allied forces advanced by three routes northwards from Palestine and Transjordan: (1) along the coast road towards Sidon, (2) along the Metulla–Homs road towards Merj Ayun, and (3) along the Deraa–Damascus road through Sheikh Meskin towards Kiswe.

The French ground forces were superior in numbers and equipment. General Dentz had 20 battalions of Colonial and Foreign Legion infantry, and 11 battalions of Syrian and Lebanese troops, about 35,000 men in all. His tanks numbered about 90, of which 60 were of modern medium type, and he had over 80 guns. In addition there were about 60 French armoured cars in the desert zone. Against this, General Maitland Wilson's corps numbered two Australian and one Indian brigades with a Free or Fighting French contingent which included cavalry; there were also mixed desert groups from the British forces occupying Iraq. In the air the French had the advantage at the outset, but rapidly lost it as the R.A.F. was reinforced; but the air forces do not seem to have played a dominant part in the campaign on either side.

From the naval aspect the advance by the coast road through the narrow coastal plain is of special interest. A small naval squadron of cruisers, destroyers, and light craft established control of the seas; it stopped the possibility of reinforcement by sea, prevented the French destroyers from a flank bombardment of the Allied troops, and itself gave considerable assistance to the land forces by bombarding well-placed hostile artillery which continually held up the advance. The strongest of the defensive positions was at the crossing of the Litani river; this was taken with the assistance of a commando force landed by the Navy immediately in the rear of the enemy. The French fought a series of rearguard

actions at the river crossings northwards to Beirut, ending with a stubborn resistance along the Damur river, which was outflanked at the time of the armistice.

In the central sector a subsidiary column struck north-west along the Merj Ayun–Sidon road and thence north between the coast and the Bekaa to Jezzin, which was taken. But the main fighting, in which little real progress was made, was around Merj Ayun and Hasbaya. Merj Ayun was taken, lost, and retaken. At the time of the armistice Hasbaya had fallen and the French were being forced out of their positions in the foothills of Hermon, east of the Merj Ayun–Kuneitra road.

In the third or eastern sector the Hauran was quickly overrun, but the French defences on the hills around Kiswe held firm until taken by a full-scale assault a week after the opening of hostilities. The recapture of Kuneitra by the French, after its loss in the initial stages, prevented for the time a subsidiary advance on Damascus along the Kuneitra–Damascus road; at the time of the assault on Kiswe a French force made a dash across the Hauran and cut the Allied communications in the rear at Deraa and Sheikh Meskin, but was soon isolated and eliminated. After the loss of Kiswe there was some stiff resistance in Kadem and Mezzeh, the southern suburbs of Damascus; but this only lasted for 36 hours. From Damascus the advance forked in three directions. A force dispatched along the Damascus–Beirut road, through the Barada gorges, was unable to make much progress. The main advance was northwards along the Damascus–Homs–Aleppo road; this had reached Deir Atiyeh, beyond Nebek, at the time of the armistice. The third group moved north-east by the Damascus–Karyatein–Palmyra road and reached Karyatein.

Meanwhile, in addition to the southern offensive, motorized forces were advancing westwards across the Hamad from Iraq. Three small groups crossed the Jezireh to the Balikh valley at Suwar. Thence one group went north to cut the Baghdad railway in the Duck's Bill at Demir Kapu and reached Kamichlieh on the Turkish frontier. A second descended to the Euphrates and advanced to Rakka, whence Aleppo was threatened. The third crossed the Hamad by the Deir ez Zor–Sukneh–Palmyra route and joined hands at Sukneh with a fourth group, which had followed the pipeline from Haditha in Iraq to Palmyra. This last made the assault on Palmyra, which was strongly fortified and held out for eleven days. Thence the force advanced westward along the Palmyra–Forklos–Homs route and cut the Aleppo–Rayak railway south of Homs.

The numerical superiority of the French forces was not enough to enable a successful defensive to be waged against these converging assaults from south and east. The successes at Damascus and Homs undermined the whole of the French positions in the Lebanon areas, which had been stubbornly and not unsuccessfully defended. General Dentz asked for an armistice on 10 July, and the cease fire sounded at midnight on 11/12 July.

Politics and Administration since June 1941

At the opening of hostilities, General Catroux, as the representative of Free France, issued this proclamation: 'I come to put an end to the mandatory régime and to proclaim you free and independent. You will therefore be, from henceforward, sovereign and independent peoples, and you will be able either to form yourselves into separate States or to unite into a single State. In either event, your independent and sovereign status will be guaranteed by a treaty in which our mutual relations will be defined. This treaty will be negotiated as soon as possible between your representatives and myself.' On 24 June General de Gaulle outlined the procedure by which the promise of independence was to be implemented. It would be General Catroux's duty to secure the establishment of representative assemblies and of governments based on the assemblies, and to conclude treaties of alliance with the governments. Meanwhile the French Mandate would continue, and General Catroux would assume all the powers previously exercised by the High Commissioner.

In a British statement, Sir Miles Lampson said: 'I am authorized by His Majesty's Government in the United Kingdom to declare that they support the assurance of independence given to Syria and Lebanon.' The Prime Minister, in the House of Commons, said: 'We have no ambitions in Syria. . . . However, I must make it quite clear that our policy, to which our Free French Allies have subscribed, is that Syria shall be handed back to the Syrians, who will assume at the earliest possible moment their independent sovereign rights. We do not propose that this process of creating an independent Syrian Government, or Governments—because it may be that they will not be one Government—shall wait until the end of the war. . . . There must be no question, even in war-time, of a mere substitution of Free French interests for Vichy French interests.'

The nationalist leaders in Damascus made little response to these overtures, and did not join, if they were ever invited to do so, the governments which were presently established. They did not believe that the intentions of the Free French towards them were different from those of the French Governments of 1939 or 1940. There were some, on the other hand, who were disappointed that the British Government had not assumed direct responsibility. The belief that the Free French authorities could be influenced by representations to the British led to incidents which aroused in French minds the suspicion that Britain was trying to extend her influence in the Arab World at the expense of France. This in turn induced in the Free French authorities a more cautious attitude towards Syria.

Much depended on the initial steps taken to fulfil the Franco-British promise of 8 June. General Catroux began by nominating, as Presidents of the Syrian and Lebanese Republics respectively, Sheikh Taj ed Din el Hasani and M. Alfred Nakkash. These nominations were followed, in

September and November, by proclamations recognizing the independent and sovereign status of the two republics. In a proclamation to the Syrian people, General Catroux declared that the only limitations upon the realization of this status would be those necessitated by the state of war. In the Lebanese proclamation this phrase was modified. Lebanese independence and sovereignty were to be reconciled with 'France's secular mission and the requirements of the state of war'. One question left open on 8 June had been answered in the interval: Syria and Lebanon would continue to be two separate States. The controversial issue of the Lebanese frontier was settled by the statement: 'France considers that the State of Lebanon is politically and territorially an indivisible unit.'

Neither Sheikh Taj ed Din nor M. Nakkash commanded the confidence of more than a small minority. Their Ministries included practically no political leaders who had a substantial following. But the Syrian Cabinet contained representatives of the Alawi and Druse autonomous territories, symbolizing a closer unification of the Syrian State. General Catroux carried this a stage farther in the following February by issuing decrees suppressing the distinct judicial organizations of the two territories. The mohafez, the judges, and the administrative officers henceforth are to be appointed by the Syrian Government at Damascus. The two provinces retain, however, 95 per cent. of the local revenue for local objects, as under the system of 1936 (above, p. 177).

Various changes were made in the Syrian and Lebanese ministries, but no public statement was made on the subject of the promised elections until August 1942, when, in the course of a visit to Syria and Lebanon, Gen. de Gaulle announced that they would not be held for the present. In January 1943 it was finally decided to hold general parliamentary elections both in Syria and in Lebanon under the aegis of General Catroux.

The governments and peoples of both countries were preoccupied with the problem of food supply. The natural fear that war-time obstacles to the import of grain from overseas might result in a local shortage was intensified by memories of the famine years of 1916–18. But the work of the Middle East Supply Centre of the Allies made possible the import of substantial quantities of wheat and flour. The harvest of 1942 was abundant, and the two countries should have been freed from anxiety, but internal distribution proved defective. With the aim of removing this danger, the Syrian, Lebanese, Free French, and British authorities combined in the spring of 1942 to establish a Cereals Office with a monopoly of the trade in grain, and with power to requisition the peasants' surpluses at fixed prices. This measure was less efficacious than had been hoped, owing to the inadequacy of the administrative system and to the influence of the larger landowners. The supply of Beirut was especially difficult to maintain. Another economic problem has been the general rise of prices due to the war and the Allied occupation, though this is partly offset by the elimina-

tion of unemployment and the liberal spending of the occupying Powers on such objects as the building of the new railway line from Haifa to Tripoli and on military establishments.

The interplay of forces in Syrian and Lebanese politics since the armistice of 1941 has been exceedingly intricate. The Fighting French authorities, representing the interests of the mandatory Power, tend to postpone any decision. This has confirmed the already deep-rooted scepticism of the Syrians and Lebanese. The British Government cannot co-operate with the Syrian leaders against the French, and therefore shares in the unpopularity of the latter. The nationalists, unable to discover any immediate means of advancing their cause, have remained in the background. The situation is also complicated by the influence of minority leaders, especially that of the Maronite Patriarch in Lebanon; and under all the political issues runs a strong current of economic and social discontent.

APPENDIX F

CALENDARS AND FESTIVALS

Moslems

Calendar. The Hejira, or flight of Mohammed from Mecca to Medina, is reckoned to have taken place on the night of 20 June A.D. 622. The Mohammedan era, instituted seventeen years later by the caliph Omar, dates from the first day of the first lunar month, Moharram (Thursday, 15 July A.D. 622). The years are lunar, consisting of twelve lunar months, each commencing with the approximate new moon, without any intercalation to keep them in agreement with the solar year, so that they retrograde through all the seasons in about 32½ years. They are divided also into cycles of 30 years, 19 of which are common years of 354 days each, and the other 11 intercalary years, having an additional day added to the last month. To find the year of the Christian era corresponding to the Moslem year, one deducts 3 per cent. from the Moslem figure and adds 621·54 to the result.

Lunar Months (*Shuhur Kamariyeh*)

Moharram	30 days.
Safar	29 ,,
Rabi el Awal	30 ,,
Rabi et Thani	29 ,,
Jumada el Awal	30 ,,
Jumada et Thani . . .	29 ,,
Rajab	30 ,,
Shaban	29 ,,
Ramadan	30 ,,
Shawal	29 ,,
Zul Kadeh	30 ,,
Zul Hija	29 ,, (or, in intercalary years, 30).

The days of the week from Sunday to Thursday are Yom el ahad, Y. el ithnain, Y. aththalatha, Y. el arbaa, Y. el khamis; Friday is called Yom el jumaa, day of reunion, because of the meeting of the faithful on that day, and Saturday Y. es sabt is the seventh day, as the Jewish Sabbath. Sunrise, noon, and sunset are the three chief times of prayer in the day.

The beginning of the civil month may differ from that of the religious month by one or two days; the latter begins at sunset of the day when the new moon is first seen after sunset, or at latest on the third evening after astronomical new moon. To avoid confusion official documents are dated by the day of the week as well as the day of the month.

The Moslem day begins at sunset, not midnight. Hence the night of the sixth in European style is the night of the seventh in Moslem style.

Festivals. Friday is the holy-day in each week, a day of obligatory meeting for prayer, when the *dhor*, noonday prayer, is preceded by a sermon, *khotba*. There are no days set aside for religious festivals in the Koran, but these are appointed either by *Sunna* (religious law) or by custom. In the month of Ramadan, Moslems fast from sunrise to sunset.

The principal Moslem festivals are:

Festival	*Date*
New Year	1 Moharram
Yom Ashura (date of Noah leaving the Ark, and of the death of Husein at Kerbela) . . .	10 Moharram
Muled en Nebi or M. esh Sherif (Mohammed's birthday)	12 Rabi el Awal
Muled el Husein	6–29 Rabi et Thani
Lailat er Raghaib (night of Mohammed's conception)	Eve of first Friday in Rajab
Muled es Sayida Zenab (festival of this grand-daughter of Mohammed)	15 Rajab
Lailat el Maraj or el Isra (night of Mohammed's ascent to heaven)	27 Rajab
Muled el Imam esh Shafi	3 Rajab to 9 Shaban
Lailat el Baraat ('Night of Decrees', when the guardian angels receive from the Almighty tablets recording the fate of their charges in the coming year) .	15 Shaban
Ramadan	1–30 Ramadan
Lailat el Kader ('Night of Power', on which the requests of all worshippers are believed to be granted)	27 Ramadan
Id el Feter (Sheker Bairam—3 days) . . .	1–3 Shawal
Procession of the Kiswa (the inner covering of the Kaaba shrine at Mecca)	25 Shawal
Arafeh (the eve of En Nahar)	9 Zul Hija
Id el Adha or En Nahar (Lamb festival, marked by sacrifices; amongst beduin a camel is the victim, if possible, elsewhere a sheep or goat) . . .	10–12 Zul Hija

Alawis

Certain days are especially commemorated. On the 18th of Zul Hija, or Feast of the Pond, Mohammed is supposed to have appointed Ali as his successor. The 21st and 29th of this month are also feast days, in addition to the Lamb Festival En Nahar, commemorating events in the life of the Prophet in which Ali played an important part. On the 9th of Rabi et Thani the Alawis celebrate another Feast of the Pond, and in mid-Shaban is the feast in honour of Husein. Besides these they have apparently adopted certain Christian festivals, notably Christmas, and others which belong to the Persians. For these they employ the calendars of those communities.

Druses

Public worship amongst the Druses is performed on Thursday nights in a building called a Khalweh (retreat).

Jewish Calendar and Festivals

The Jewish calendar is lunar, but is accommodated to the solar by the addition of one intercalary month of 30 days 7 times in a cycle of 19 years. The months are as follows: Tishri (30 days), Heshvan (29 days), Kislev (30 days), Tevet (29 days), Shevat (30 days), Adar (29 days), Nisan (30 days), Iyyar (29 days), Sivan (30 days), Tamuz (29 days), Ab (30 days), Elul (29 days).

The intercalary month which follows Adar is known as Adar Sheni, or the second Adar. The year 5703 began on 12 September 1942. The date on which the year opens ranges between 6 September and 5 October.

Festivals. The sacred day of the week is Saturday, when religious services are held in all synagogues and no work is done. It lasts from sunset on Friday until sunset on Saturday.

The New Year opens on the 1st of Tishri; the festival is continued also on the 2nd of the month. These days inaugurate the most solemn period of the Jewish year which culminates in the Day of Atonement (*Yom Kippur*, 10 Tishri) on which all observant Jews abstain strictly from all food, drink, and tobacco for 25 hours, from sunset to sunset with an addition of half an hour at each end, and spend the day in prayer. The principal feasts are Passover (*Pesach*, 15 to 21 or 22 of Nisan), on which the Exodus is celebrated; Pentecost or the Feast of Weeks, which is also the feast of the Grain harvest (*Shavuot*, 6 and 7 of Sivan), in commemoration of the entrusting of the *Torah* or Law to Israel; the feast of the Tabernacles (*Succoth*, 15 to 22 and 23 of Tishri), which is also the feast of the Fruit harvest; the last day of this feast is *Simhat Torah*, the festival of the Rejoicing of the Law, on which the annual cycle of the reading of the *Torah* (the Five Books of Moses) is completed. Of the minor feasts there are *Hanuccah* (Kiskev 25 to Tevet 10), on which the defeat of the Syrians by Judas Maccabaeus and the cleansing of the Temple are celebrated, and *Purim* (Adar 14), which marks the defeat of the attempt of Haman to annihilate the Jews of the Persian Empire. The principal minor feast is *Tisha B'Ab* (9 Ab), the reputed anniversary of the destruction of the Temple by Titus, on which there is a 24-hour abstention from food and drink, but not necessarily from work.

Orthodox Christians

Although the Gregorian calendar has been adopted by the Greek Orthodox Church and some of the autonomous orthodox churches, in place of the Julian calendar, for *fixed* religious festivals, the Syrian Patriarchate still adheres to the Julian system. Hence the festivals are thirteen days later than in western Europe.

APPENDIX G

WEIGHTS AND MEASURES

ALTHOUGH the decimal system was officially adopted throughout the Ottoman Empire in 1869 and re-established in the mandatory period, the population ignores it except in the europeanized quarters of the big towns. Elsewhere the traditional weights and measures are in daily use. These are not standardized but vary in meaning from region to region according to local custom, which is based, in origin, either on the productivity of the soil or on the carrying capacity of the beasts of burden; camels carry larger sacks than do donkeys, and the unit of measure is heaped more generously in fertile regions than where the harvest is hardly won. Where the actual measures are the same there is a diversity of names, to which the former linguistic diversity of the country has contributed.

Weight

The theoretical basis of weight is the grain of corn, but the lowest real unit is the *derhem* containing 64 corn grains or 3·2 grammes. The commonest multiples of the derhem are as follows:

		1 derhem	=	3·2 grammes
66·6 derhem	=	1 okiyeh	=	0·47 lb.
6 okiyeh	=	1 okke	=	2·8 lb.
2 okke	=	1 rotl	=	5·6 lb.

This is the official *rotl* (or *batman*) *shami*, used especially for foreign products. But the value of the rotl in derhems may vary from 800 to 1,017, and the lesser units likewise. Thus at Homs the local okke and rotl are worth 460 and 920 derhem respectively. Higher units are properly units of volume. But there is a relation between the rotl and the kantar, which usually contains 100 rotls (90 in the Hauran, 117 at Homs).

Volume

The unit of capacity, particularly for grain, may be called *mudd*, *tabbeh*, *kirrata*, *albeh*, *masha*, or *kaoleh*, but the size of the measure is the same and is approximately half an English bushel or 4 gallons. It is subdivided into 4 *rubiyehs* or 8 *tumniyeh*. The size of the half-bushel varies locally according as the measure is filled level or heaped up. The simplification of measures has been greatly helped by the accidental approximation of the 4-gallon petrol tin and the native half-bushel.

Next to the half-bushel comes the bushel, known as *keileh*, *jeft*, *oltchak*, *garata*, or *reba*. Where the camel is common, as in the central plains and steppes, the half or whole camel-load is the unit, both being called *shembol*

or *kantar*. All these units are also used as units of weight, and naturally vary with the density of the product concerned. The following tables give both the local distribution and the local value in kilograms (roughly 1 kg. = $2\frac{1}{4}$ lb.) of the various measures of volume.

Syria

Region	*Product*	*Half-bushel* *Kg.*	*Bushel* *Kg.*	*Half-camel load* *Kg.*	*Camel load* *Kg.*
Aleppo	Wheat	..	Keileh 27	Shembol 110	Kantar 260
	Barley	..	,, 22	,, 88	
Homs	Wheat	Masha 18	Jift 36	..	Shembol 216
	Barley	,, 14	,, 28	..	,, 168
	Maize	,, 16·5	,, 33	..	,, 200
Hauran	Wheat	Mudd 17·5	Jift 35	..	..
	Barley	,, 14	,, 28	..	..
Damascus Oasis	Wheat	Mudd 17·5	Jift 35	..	..
	Barley	,, 12·5	,, 25	..	..
	Maize	,, 16	,, 32	..	..
	Peas or beans	,, 18	,, 36	..	..
Jezireh	Wheat	Albeh 13	Oltchak 26	..	Bar or Keileh 416
	Barley	..	,, 22	..	
Deir ez Zor	Wheat	..	Garata 26·5	..	..
	Barley	..	,, 20	..	..
Palmyra	Wheat	..	..	..	Kantar 250
Latakia Province					
Latakia	Wheat	Kirrata 17·5	Reba 35	..	..
	Barley	,, 12·5	,, 25	..	..
	Oats	,, 10	,, 20	..	..
Kadmus	Wheat	Masha 15	..	Shembol 150	..
	Barley	,, 12·5	..	,, 125	..
	Peas	,, 15	..	,, 150	..
Masyaf	Wheat	Albeh 15	..	..	Shembol 240
	Barley	,, 11	..	..	,, 175
	Beans	,, 15	..	..	,, 240
Akkar	..	Tabbeh as below	..	Shembol as below	..
Bukeiah	Wheat	Masha 14	..	Shembol 140	..
	Barley	,, 10	..	,, 100	..
	Beans	,, 13	..	,, 130	..
Ghab	Wheat	Masha 20	..	..	Shembol 240
	Barley	,, 15	..	..	,, 180

Lebanon

Akkar	Wheat	Tabbeh 14	..	Shembol 140	..
	Barley	,, 11	..	,, 110	..
	Maize	,, 13	..	,, 130	..
	Oats	,, 8	..	,, 80	..
Tripoli	..	Tabbeh or Masha	..	Shembol	..

Region	Product	Half-bushel Kg.	Bushel Kg.	Half-camel load Kg.	Camel load Kg.
Kesrwan	Wheat	Mudd 19	..	..	..
Akura	Cereals	Mudd	..	..	..
Shuf	Wheat	Mudd 17·5	..	Keileh 105	..
	Barley	,, 15	..	,, 90	..
Sidon	Wheat	Mudd 12·5	..	..	..
	Barley	,, 9	..	..	..
	Maize	,, 11	..	..	..
Bekaa	Wheat	Mudd 18	..	Keileh 108	..
	Barley	,, 14–15	..	,, 84–90	..
	Maize	,, 17–18	..	,, 102–8	..
	Beans	,, 17·5	..	,, 105	..

Length

The *dhra*, pic, or ell was fixed by the Ottoman Government and confirmed by the High Commissioner in 1926, as measuring 75·8 centimetres or 29·84 inches. It is subdivided into 24 *kirats*, or Syrian inches. But local variations persist, and there is a distinction between the standard dhra (or *dhra mimari*, 'mason's pic') and the dhra used for measuring cloth, which may vary between 67 and 70 cm. Multiples are

4 dra = 1 ba (3 m. or 9·8 ft.)
1,000 dra = 1 mil.

Other great units are the *mil rachimi* (3 km.) and the *farsak* (9 km.).

Area

The unit of general use is the *dunam*, by origin an official Ottoman unit, measuring 40 dhra × 40 dhra or 919·3 sq. m. It is subdivided into 4 evelek, and the evelek is 20 dhra × 20 dhra.

Other units are based on the amount of work done by a man and a pair of oxen in a day or in a year. The term *feddan* (or *bakra*) is used for both, but is only a real measure in the former case, where it varies according to local conditions of soil and climate from 0·6 to 0·8 acres. In the latter case feddan means little more than a 'small-holding', made up of separate plots, and has a different value from village to village; the difference may be as much as between 17 acres of irrigated land and 110 of dry steppe.

Where the strip system of landholding prevails the *kadek* may be used. This means a length of 24 paces multiplied by the width of the strip, whatever it may be.

APPENDIX H

SHEIKHS AND PARAMOUNT SHEIKHS

The following list gives the more important of the tribal sheikhs. The list is in the same order of the tribal list in Chapter VIII, p. 200. Not all tribal groups recognize the authority of paramount sheikhs, but one group may contain several tribes each with a supreme sheikh. Such sheikhs are marked with a 'P', but there are degrees of authority which cannot be assessed by a tabular summary. The list is derived from Oppenheim and is to be dated before 1939. Its value lies in the fact that the ruling families retain their power from generation to generation.

JEZIREH AND EUPHRATES	
Feddan	
Weld	Mejhem ibn Muhed.
Chrese	Abdul Aziz ibn Kueshish.
Amarat	
	Mahrut ibn Haddal. P.
Shammar	
	Mishal Pasha el Fares. P.
Tai	
	Mohammed ibn Abdul Rahman. P.
Zubed	
Jebur	Jemil ibn Meslat Pasha. P.
Al Bu Shaban	
Welde	'Facci' el Jasem (Bab-Membij). P. Mohammed el Faraj (S. of Euphrates). P. 'Shauk' el Bursam (N. of Euphrates). P.
Afadele	Beshir el Huwedi. P.
Sabcha	Ali ibn Soghan Agha. P.
Oggedat	
	Jedan el Hefl. P.
Baggara	
B. ez Zor	Esad el Beshir. P.
B. el Jebel	Isa el Suleiman. P.
TURKISH FRONTIER OF JEZIREH	
Harb	
Nusel	Ahmed el Obedo.
Al Bu Salem	Shalil el Abbud.

Sherabin	
Al Bu Mohammed	Ahmed el Hasan, Ibrahim el Husen, and Shalaf el Mehemed.
Obed	Seejed el Obed el Hezam.
Tahet	Selmau el Ali.
Nuem	
El Ghedeje	Isa b. Sirhan.
El Metajera	Mohammed b. el Sheikh Jasem.
Jez	
Sijale	Mustafa el Saleh, Husen el Saleh, and Bedr el Husen.
Beni Hohammed	Mehemed el Sheikh Hassan.
Beni Yusuf	Mustafa el Shalaf el Saleh.

ALEPPO AREA

Sba	
Kemese	Rakan ibn Mershed.
Ebede	Barjas ibn Hudeb.
Hadidin	
	Nauwaf el Saleh. P.
Dependents of Hadidin	
Gijar	Nejm ibn Eljas.
Al Bu Shamis	Ali el Husen el Rashed.
Luheb	Esad el Ashek.

HAMA–HOMS AREA

Mawali	
	El Emir Shajesh b. Abdul Kerim. P.
Dependents of Mawali	
Turki	Sirhan el Allush
Beshakem	Ahmed el Dendal.
Ogedat	El Hajj el Sheetije.
Beni Khaled	
	Mohammed ibn Abdul el Kerim Pasha. P.
Fewaera	
El Algawijin	Sefuk el Afnan.
El Hanahene	Suleiman el Auwad.
El Meedijin	Mohammed el Mesetef.
El Tereje	Obejed el Salem.
El Behadele	Derwish el Shibli.
El Tuwemar	Kaddur el Azzawi.
El Zijadene	Hemejed el Derwish.
El Aramene	Hajjaj el Fejad.

Fewaera—continued	
El Hanadze	Mishref el Adlan.
El Abid	Hemedi.
Dana Moslem	
Hesene	Trad ibn Melhem el Mazjad. P.
Nuem	
	Saud el Husen. P.
HAURAN AND JAULAN	
Ruwalla	
	El Nuri ibn Shalan. P.
Sewaleme	
	Ajet ibn Jandal. P.
Abdelle	
	Abdallah ibn Mujed. P.
Ashaja	
	Ferhan ibn Mejel. P.
Dana Moslem	
Weld Ali	Enad ibn Sumer.
Fadl	
	El Emir Faur el Faur. P.
Nuem	
	Saleh b. Barakar el Tahhan.
	Memduh el Tahhan. P.
Minor tribes	
Merazeka	Abdallah.
Nearene	Auwad el Id.
Luwesiyeh	Saleh el Faras.
Jeatin	Mohammed ibn Jasem.
Tellawiyeh	Rahhal.
DAMASCUS AREA	
Dana Moslem	
Weld Ali	Sultan el Taijar.
Minor tribes	
Jumlan	Zaher el Masud.
Ogedat	Mohammed ibn Jasem, Jasem el Jaber, and Ali ibn Shalaf.
Nuem	
Harb	Selame el Hasan.

Amur	
Amur ed Dire	Shalaf el Najer, Shalaf el Atije, and Mansur el Teli.
Arab el Leja (Salut)	
Al Hamad	Talal b. Sad el Din Abu Suleiman el Hamad.
Beni Amr	Ahmed b. Zaal el Ghusen.
Arab el Jebel	
Zubed	Mefleh ibn Shuder.
Wessamet el Bahel	Ibn Frewan el Serur, Mefleh ibn Hulel, and Auwad ibn Onezan.
Sardiyeh	
	Memduh ibn Fajez, Kuleb el Aun, and Meshhur ibn Ghaleb.

APPENDIX I

GLOSSARY

Ab, August.
Abu, father (often used in gen. to denote possession).
Abu sfeir, bitter orange.
Abiad (fem. *beida*), white.
Ada, debris.
Adas, lentils.
Adhar, March.
Ahmar (fem. *hamra*, pl. *hamrin*), red.
Ailul, September.
Ain (pl. *ayun*), spring (water).
Aiyar, May.
Ak (*akcheh*) T., white.
Akbar, more or very big.
Akh (pl. *ikhwan*), brother.
Akhdar (fem. *khadra*), green.
Al, tribe.
Ala, *ali*, above, high.
Alaf, hay.
Ambar, *anbar*, storehouse.
Ami, *ama*, blind (used of dry streams).
Amik, deep.
Amk, depression.
Amir el bahr, admiral.
Amud, column.
Anf, nose.
Ard, country, district.
Arid, desert plant eaten by camels.
Arz, cedar.
Asal, honey.
Asfal, below.
Asfar (fem. *safra*), yellow.
Ashab, grey.
Ashireh (gen. *ashiret*), kindred, family, tribe.
Asmar, brown.
Aswad (fem. *sauda*), black.
Atik (fem. *atika*), old.
Aziz (fem. *aziza*, pl. *azaz*), dear.
Azrak (fem. *zerka*), blue.

Bab, gate.
Badiyeh, desert.
Badgir, wind-scoop: house ventilator.
Baghl (pl. *bighal*), mule.
Bahr (dim. *buheira*), sea, lake.
Bakar, ox.
Bakarah, cow.
Balah, dates.
Balam, boat.
Banadura, tomato.
Barid, cold.
Barrade, camel track.
Basal, onion.
Batatah, potato.
Batikh akhdar or *ahmar*, water-melon.
Batikh asfar, melon.
Battah, duck.
Beida, egg.
Beit (pl. *buyut*), house.
Bekaa (dim. *bukeiah*), fertile plain.
Beled (*balad*), village, town, district, country.
Bend T., dyke.
Beni, sons of (gen. pl. of *ibn*).
Betinjan, egg-plant.
Bin, son (variant of *ibn*).
Bint (pl. *benat*), girl, daughter.
Bir (pl. *abar*), well.
Birkeh (gen. *birket*), pool, cistern, tank.
Bisallah, peas.
Bostah, post office.
Bostan, garden.
Borj, tower.
Bulad, steel.
Burrez, rock salt.
Burtukan, common orange.
Butm, terebinth.
Butrun T., nose.

Dagh T., mountain.
Dahr, crest.
Dar, house.
Darb (*derb*), road, path.
Dardar, ash.
Dausar, oats.
Debb, bear.
Deir (dim. *dueir*), monastery, convent.
Demir T., iron.
Deniz T., sea.
Dereh T., stream, valley.
Dhabab, fog.
Dhalul, riding camel.
Dhura, maize.

Dib, wolf.
Dilb, plane-tree.
Din, religion.
Dirah, area within which a nomad tribe usually moves, and has grazing rights.
Dujajah, chicken.
Dukhan, tobacco.
Dukhn, millet.

El, the.
Emir, ruler, prince, commander.
Enab, grape.
Ennab, jujube-tree.
Eski T., old.

Fatihah (gen. *fatihat*), opening.
Fawara, spring (water).
Fijl, radish.
Filfil, pepper.
Fistuk, pistachio.
Flus, silver (money).
Fokani (fem. *foka*), above.
Ful, beans.

Ghab, forest.
Ghadir, water-point in desert.
Ghar, cave.
Gharb, west.
Gharbi, western.
Ghazal (pl. *ghezlan*), gazelle.
Giaur T., Christian.
Göl T., lake.
Gumruk, custom house.
Gurmah (gen. *gurmat*), canal, channel.

Habs, prison.
Hadid, iron.
Hadrah, commercial mission.
Hait (pl. *hitan*), wall.
Hajar, stone.
Haji, title assumed by Moslem who has made the pilgrimage to Mecca.
Hajj, pilgrimage to Mecca; pilgrim caravan.
Hakleh, field.
Haleb, milk.
Halyun, asparagus.
Hamad, barren; used of Syrian desert.
Hamam, pigeon.
Hammam (pl. *hammaman*), bath.
Hara (*haret*), quarter (district).
Hatab, wood (fuel).
Haur, poplar.
Hauri, flat foreshore (Tigris valley).
Hawa, wind.
Haziran, June.
Hemma, lava.
Himar (pl. *hamir*), ass, donkey.
Hintah, wheat.
Hirr (fem. *hirrah*), cat.
Hisan, horse.
Hosn, fortress.
Hubub, corn (cereal).
Hummar, bitumen.
Hummus, chick pea.

Ibn, son.
Idrah, mealies.
Ijjas (*najas*), pear.
Ijl, calf.
Iklim, province.
Imam, religious leader.
Imamzaneh, tomb of Imam.
Imraa (pl. *nisa*), woman.
Irm (pl. *urum*), stone erected in the desert.

Jalid, ice.
Jamal, camel.
Jami, mosque.
Jamus, buffalo.
Jarad, locust.
Jarra, jar, pottery.
Jebel, hill, mountain.
Jedid (dim. fem. *jedeideh*), new.
Jelant, pumpkin.
Jemil, beautiful.
Jenub, south.
Jenubi, southern.
Jeradeh, grasshopper.
Jerd (pl. *jerud*), denuded area.
Jerjar, watercress.
Jezar, carrot.
Jezireh (gen. *jeziret*), island, Mesopotamia.
Jild, leather.
Jirf (*jurf*), cliff.
Jirjib, stream-bed dry in summer.
Jisr (pl. *jusur*), bridge.
Joz, walnut-tree.
Jubb (pl. *jubab*), cistern, tank.
Jubn, cheese.
Jummiez, sycamore fig.
Jund, army.

Jundi, soldier.
Juss, gypsum.

Kabr, tomb.
Kadim, old.
Kaikob, maple.
Kaimmakam, administrator of a Kaza.
Kalaa (gen. *kalaat*), castle.
Kalak, raft.
Kamar, moon.
Kamh, wheat.
Kanat (pl. *kanawat*), canal, water channel, subterranean conduit.
Kantareh (pl. *kanatir*, dim. *kuneitra*), bridge.
Kanun (pl. *kanawin*), law.
Kara T., black.
Karaz, cherry.
Karib, boat.
Kariyeh, village.
Karnabit, cauliflower.
Kasab, rushes.
Kasr (dim. *kuseir*, pl. *kusur*), palace, castle, walled village.
Kastal, moated castle.
Kaukab, star.
Kebir, great.
Kefr, village.
Kelb (pl. *kilab*), dog.
Keniseh, church.
Kerim, generous.
Ketir, numerous.
Khabra, depression in which rain water collects.
Khalif, bay, creek.
Khalweh (pl. *khalwat*), Druse place of prayer.
Khan, inn, caravanserai.
Kharab, ruin.
Kharif, autumn.
Kharuf, sheep.
Khass, lettuce.
Khaukh, plum-tree.
Khinzir (pl. *khanazir*), pig.
Khirbeh (gen. *khirbet*), ruin.
Khiyar, cucumber.
Khor, sheet of water, bay, inlet, marsh; salt-encrusted ground.
Koraïbeh, small ruin.
Khubz, bread.
Kibbad, citron.
Kils, chalk, cement.
Kinaseh, shoal or sandbank.
Kinnab, hemp.
Kir, bitumen.
Kishlak, barracks.
Kittan, flax.
Kosa, marrow.
Kosileh, barley (fodder).
Kubbeh, dome, cupola.
Kura, region.
Kut, fort.
Kutn, cotton.

Lahm, meat.
Leben, sour milk.
Leimun hamidla, lemon.
Lift, turnip.
Loz, almond-tree.
Lubiyeh, string bean.
Lubiyeh franjiyeh, kidney bean.

Ma or *moi*, water.
Maaden, mine.
Mabar, ferry.
Madd wajazr, tide.
Madfan, tomb.
Mahattah, railway station.
Mahsulat, crops.
Maidan, open space, plain.
Makah, resting place, tomb.
Makhadha, ford.
Mal, fortune.
Manfad (pl. *manafid*), pass, defile.
Mar, saint.
Maristan, lunatic asylum.
Markab, ship.
Matar, rain.
Mauj (pl. *amwaj*), wave.
Mawashi, cattle.
Maz, goat.
Mazar, shrine.
Medineh (pl. *madain*), city.
Mejdel, tower.
Melek (*malek*), king, chief.
Melfuf, cabbage.
Melh, salt.
Merj (pl. *mruj*, dim. *mureij*), plain, marsh.
Merkez, headquarters.
Meshta, winter farm.
Meskin, poor (man).
Mezjid, small mosque, place of prayer.
Mezraa or *mezraat*, farm.
Mihrath, plough.
Mina (pl. *mawani*), port.
Miskmish, apricots.

Mizaze, beacon hill.
Moallak, suspended, hung.
Mudir, administrator of a nahiyeh.
Mughara, cave, grotto.
Mujtahid, Mitwali religious authority.
Mushnef, jutting out.
Mustashfa, hospital.
Mutessarif, administrator of a province.

Nab, spring water.
Nabk, lotus.
Naha, mint.
Nahr (pl. *anhar*), river, canal.
Nakhleh, palm-tree.
Nakib, leader, head of community.
Nakibzadeh, son of nakib.
Naktah, police post.
Naranj, Seville, or bitter orange.
Nar, fire.
Nas, people.
Nasim, breeze.
Nau (pl. *anwa*), squall.
Naus, rock cave.
Nazaret el bahriyeh, Admiralty.
Nebaa, spring (water).
Nebi, prophet.
Nijat, stony plain.
Nil, indigo.
Nisan, April.
Nur, light.

Rabi, spring (season).
Rad, thunder.
Radi, bad.
Radir, water hole.
Rais, chief.
Rajul (pl. *rijal*), man.
Raml, sand.
Rarb, reservoir.
Ras, head, promontory.
Rasas, lead (metal).
Rasif, pier.
Rasm, trace, outline, frontier.
Rumman, grenade, also pomegranate.
Rummaneh, grenadier.
Ruzuma, boulder.
Ruzz, rice.

Sabkha, salt marsh.
Sabun, soap.
Safsaf, willow.
Sahel, plain.
Sahra, desert.
Said (fem. *saida*), lucky, fortunate.
Saif, summer.
Sajeh, small boat.
Sakhr (pl. *sukhur*), rock.
Sakhri, rocky.
Samak, fish.
Sarifeh, reed and mud hut.
Sarueh, cypress.
Sayed (fem. *sayideh* or *sayidet*), patron, lord.
Sebanekh, spinach.
Sedd, dyke.
Sefineh, boat, ship.
Serail, Government buildings.
Serdab, underground room (for protection against heat of summer).
Sferjel, quince.
Sghir (pl. *sghar*, pl. fem. *sughra*), small.
Shabb, young.
Shai, tea.
Shair, barley.
Shajara (pl. *shajar*), tree.
Shakhtur, large flat-bottomed boat.
Shamandarah, buoy.
Shamiyeh, used of left bank of Middle Euphrates (towards Esh Sham, Damascus).
Shams, sun.
Shari, street.
Shark, east.
Sharki, eastern.
Shareh, main road.
Shatt, river bank, river, beach.
Shatt raml, sandbank.
Shebbak, grille.
Sheghr (pl. *shoghur*), denuded area.
Shehir T., town.
Sheifun, oats.
Shemal, north.
Shemali, northern.
Shemandur, beet.
Sherif, noble.
Shimal, left (hand).
Shita, winter.
Shok, camel thorn.
Shueib (*shaib*, *shib*), ravine, small watercourse.
Sikkat el hadid, railway.
Sikkin (pl. *sakakin*), knife.
Silk (pl. *suluk*), cable.
Simsim, sesame.

Sindiyan, oak.
Snaubar, pine-tree.
Su T., water, river.
Subbeir, Indian, or cactus fig.
Sudd, dyke embankment.
Sukkur, sugar.
Sur, rampart.

Tahum, mill.
Tahtani (fem. *tahta*), lower, below.
Taiyara (pl. *taiyarat*), aeroplane.
Tali (pl. *tulyan*), lamb.
Tarik, road, path.
Tawil, long.
Tag, snake hole.
Tayeb (fem. *tayibeh*), good.
Tekkiyeh, hostel for pilgrims.
Tell (pl. *tulul*), mound, hill.
Tenijje, mountain defile.
Tepeh T., hill.
Thalab, fox.
Thalj, snow.
Thaur, bull.
Tiffah, apples.
Tibbin (*tibn*), straw.
Tineh, fig-tree.
Torah, canal.
Tum, garlic.
Tut, white mulberry.
Tut shami, black mulberry.

Ukht (pl. *akhawat*), sister.
Umm, mother (in gen. used to denote possession).

Wadi, watercourse, bed of stream.
Wakf, property held in trust for religious purposes.
Walad (pl. *aulad*), boy.
Wali, prefect; saint.
Wazir, chief minister or ruler.
Wazzah, goose.
Wustani, middle, average.

Yaghmur, rain.
Yamin, right (hand).
Yeni T., new.
Yolot, path.
Yom (pl. *aiyam*), day.

Zait, oil.
Zatar, thyme.
Zanbaa, storm.
Zauj, husband.
Zauja, wife.
Zawiyeh, sanctuary.
Zeitun, olive-tree.
Zibdah, butter.
Ziyaret, saint's tomb.

APPENDIX J

CONVERSION TABLES

METRIC AND BRITISH UNITS

All metallic standards are subject to molecular change. Tables differ according to the date of the comparison on which they rest. These are based on the 1896 comparison between Yard and Metre, which gives:

1 metre = 39·370113 inches.

Tables 1 to 6 give the ratios between units of the same sort.

Space, and printing, deny the use of many decimal figures. Therefore such a figure as 0·00000032 is given as $3{\cdot}2 \times 10^{-7}$ (which means that the first significant figure is the seventh after the decimal point: 0·0001925 becomes $1{\cdot}925 \times 10^{-4}$, and 0·0000734 is $7{\cdot}34 \times 10^{-5}$).

Tables 7 to 20 give ratios *in extenso* between single units.

These deal with conversions from metric into the equivalent British units.

Figures referring to metric units are given in italics; metric units (1 to 9) are given at the top of each table, reading horizontally from left to right; metric tens read vertically from top to bottom on extreme right and left of the table.

Thus in Table 8, if *87* centimetres are to be converted to inches, the *8* is read on the left or right edge, and, following the horizontal line until the *7* unit column is reached, the answer 34·252 is read.

LIST OF TABLES

TABLE 1. UNITS OF LENGTH.

Nautical mile	*Statute mile*	*Kilometre*	*Metre*	*Yard*	*Foot*	*Inch*	*Centimetre*
1	1·152	1·853	1853	2027	†6080	72,960	185,300
$8·684 \times 10^{-1}$	*1*	1·60934	1609·34	1760	5280	63,360	160,934
$5·396 \times 10^{-1}$	$6·21372 \times 10^{-1}$	*1*	1000	1093·61	3280·84	39,370·1	100,000
$5·396 \times 10^{-4}$	$6·21372 \times 10^{-4}$	$1·0 \times 10^{-3}$	*1*	1·09361	3·28084	39·3701	100
$4·934 \times 10^{-4}$	$5·68182 \times 10^{-4}$	$9·14399 \times 10^{-4}$	$9·14399 \times 10^{-1}$	*1*	3	36	91·4399
$1·645 \times 10^{-4}$	$1·89394 \times 10^{-4}$	$3·048 \times 10^{-4}$	$3·048 \times 10^{-1}$	$3·33333 \times 10^{-1}$	*1*	12	30·48(00)
$1·371 \times 10^{-5}$	$1·57828 \times 10^{-5}$	$2·54 \times 10^{-5}$	$2·54 \times 10^{-2}$	$2·77778 \times 10^{-2}$	$8·33333 \times 10^{-2}$	*1*	2·54(000)
$5·396 \times 10^{-6}$	$6·21372 \times 10^{-6}$	$1·0 \times 10^{-5}$	$1·0 \times 10^{-2}$	$1·09361 \times 10^{-2}$	$3·28084 \times 10^{-2}$	$3·93701 \times 10^{-1}$	*1*

† This is the customary British practice, and not the international nautical mile, of 1852 metres, which Great Britain has not adopted.

Rough rules: 1 millimetre = 0·04 inch.
1 metre = $\frac{10}{3}$ feet.
1 kilometre = $\frac{5}{8}$ of a mile.

TABLE 2. UNITS OF AREA

Square mile	*Square kilometre*	*Hectare*	*Acre*	*Square metre*	*Square yard*	*Square foot*
1	2·58998	258·998	640	$258,998 \times 10$	$30,976 \times 10^{2}$	$278,784 \times 10^{2}$
$3·86103 \times 10^{-1}$	*1*	100	247·106	1,000,000	$119,599 \times 10$	$107,639 \times 10^{2}$
$3·86103 \times 10^{-3}$	$1·0 \times 10^{-2}$	*1*	2·47106	10,000	11,959·9	107,639
$1·5625 \times 10^{-3}$	$4·04685 \times 10^{-3}$	$4·04685 \times 10^{-1}$	*1*	4046·85	4840	43,560
$3·86103 \times 10^{-7}$	$1·0 \times 10^{-6}$	$1·0 \times 10^{-4}$	$2·47106 \times 10^{-4}$	*1*	1·19599	10·7639
$3·22831 \times 10^{-7}$	$8·36126 \times 10^{-7}$	$8·36126 \times 10^{-5}$	$2·06612 \times 10^{-4}$	$8·36126 \times 10^{-1}$	*1*	9
$3·58701 \times 10^{-8}$	$9·29029 \times 10^{-8}$	$9·29029 \times 10^{-6}$	$2·29568 \times 10^{-5}$	$9·29029 \times 10^{-2}$	$1·11111 \times 10^{-1}$	*1*

Rough rules: 1 square kilometre = $\frac{3}{8}$ square mile.
1 hectare = $2\frac{1}{2}$ acres.

TABLE 3. UNITS OF VOLUME

Kilolitre	*Cubic metre*	*Cubic yard*	*Bushel*	*Cubic foot*	*Imp. gall.*	*Litre*	*Pint*
1	1·000027	1·30799	27·4969	35·3157	219·976	1000	1759·80
$9·99973 \times 10^{-1}$	1	1·30795	27·4962	35·3148	219·970	999·973	1759·75
$7·64532 \times 10^{-1}$	$7·64553 \times 10^{-1}$	1	21·0223	27	168·178	764·532	1345·43
$3·63677 \times 10^{-2}$	$3·63687 \times 10^{-2}$	$4·75685 \times 10^{-2}$	1	1·28435	8	36·3677	64
$2·83160 \times 10^{-2}$	$2·83167 \times 10^{-2}$	$3·70370 \times 10^{-2}$	$7·78602 \times 10^{-1}$	1	6·22882	28·3160	49·8306
$4·54596 \times 10^{-3}$	$4·54608 \times 10^{-3}$	$5·94607 \times 10^{-3}$	$1·25 \times 10^{-1}$	$1·60544 \times 10^{-1}$	1	4·54596	8
$1·0 \times 10^{-3}$	$1·000027 \times 10^{-3}$	$1·30799 \times 10^{-3}$	$2·74969 \times 10^{-2}$	$3·53157 \times 10^{-2}$	$2·19976 \times 10^{-1}$	1	1·75980
$5·68245 \times 10^{-4}$	$5·68260 \times 10^{-4}$	$7·43258 \times 10^{-4}$	$1·5625 \times 10^{-2}$	$2·00680 \times 10^{-2}$	$1·25 \times 10^{-1}$	$5·68245 \times 10^{-1}$	1

TABLE 4. UNITS OF WEIGHT

† *Ton*	*Millier or metric ton*	*Quintal*	*Kilogramme*	*lb.*
1	1·01605	10·1605	1016·05	2240
$9·84207 \times 10^{-1}$	1	10	1000	2204·62
$9·84207 \times 10^{-2}$	$1·0 \times 10^{-1}$	1	100	220·462
$9·84207 \times 10^{-4}$	$1·0 \times 10^{-3}$	$1·0 \times 10^{-2}$	1	2·20462
$4·46429 \times 10^{-4}$	$4·53592 \times 10^{-4}$	$4·53592 \times 10^{-3}$	$4·53592 \times 10^{-1}$	1

† The ton of 2240 lb. is sometimes called the "Long Ton" to distinguish it from the "Short Ton" of 2000 lb.

Rough rule: To turn metric into British tons deduct 1½ per cent.

TABLE 5. UNITS OF PRESSURE

Atmosphere normal 760 mm. Hg at 0° C. (g = 980·665 cm. per sec. per sec.)	*Bar (= 10^6 dynes per sq. cm.)*	*lb. per sq. inch (g = 980·665 cm. per sec. per sec.)*	*Inches of mercury at 32° F. (g = 980·665 cm. per sec. per sec.)*	*Millibars (1,000 dynes per sq. cm.)*
1	1·01325	14·6959	29·9213	1013·25
$9{\cdot}86923 \times 10^{-1}$	1	14·5037	29·5300	1000
$6{\cdot}80461 \times 10^{-2}$	$6{\cdot}89477 \times 10^{-2}$	1	2·03603	68·9477
$3{\cdot}34210 \times 10^{-2}$	$3{\cdot}38639 \times 10^{-2}$	$4{\cdot}91153 \times 10^{-1}$	1	33·8639
$9{\cdot}86923 \times 10^{-4}$	$1{\cdot}0 \times 10^{-3}$	$1{\cdot}45037 \times 10^{-2}$	$2{\cdot}95300 \times 10^{-2}$	1

TABLE 6. YIELD PER AREA

Ton per acre	*Metric ton per hectare*	*Quintal per hectare*
1	2·51071	25·1071
$3{\cdot}98294 \times 10^{-1}$	1	10
$3{\cdot}98294 \times 10^{-2}$	$1{\cdot}0 \times 10^{-1}$	1

TABLE 7. METRES TO FEET. 1 metre = 3·28084 feet

	0	1	2	3	4	5	6	7	8	9	
	..	3·3	6·6	9·8	13·1	16·4	19·7	23·0	26·3	29·5	
1	32·8	36·1	39·4	42·7	45·9	49·2	52·5	55·8	59·1	62·3	1
2	65·6	68·9	72·2	75·5	78·7	82·0	85·3	88·6	91·9	95·1	2
3	98·4	101·7	105·0	108·3	111·6	114·8	118·1	121·4	124·7	128·0	3
4	131·2	134·5	137·8	141·1	144·4	147·6	150·9	154·2	157·5	160·8	4
5	164·0	167·3	170·6	173·9	177·2	180·5	183·7	187·0	190·3	193·6	5
6	196·9	200·1	203·4	206·7	210·0	213·3	216·5	219·8	223·1	226·4	6
7	229·7	232·9	236·2	239·5	242·8	246·1	249·3	252·6	255·9	259·2	7
8	262·5	265·8	269·0	272·3	275·6	278·9	282·2	285·4	288·7	292·0	8
9	295·3	298·6	301·8	305·1	308·4	311·7	315·0	318·2	321·5	324·8	9
10	328·1	331·4	334·6	337·9	341·2	344·5	347·8	351·0	354·3	357·6	10
11	360·9	364·2	357·5	370·7	374·0	377·3	380·6	383·9	387·1	390·4	11
12	393·7	397·0	400·3	403·5	406·8	410·1	413·4	416·7	419·9	423·2	12
13	426·5	429·8	433·1	436·4	439·6	442·9	446·2	449·5	452·8	456·0	13
14	459·3	462·6	465·9	469·2	472·4	475·7	479·0	482·3	485·6	488·8	14
15	492·1	495·4	498·7	502·0	505·2	508·5	511·8	515·1	518·4	521·7	15
16	524·9	528·2	531·5	534·8	538·1	541·3	544·6	547·9	551·2	554·5	16
17	557·7	561·0	564·3	567·6	570·9	574·1	577·4	580·7	584·0	587·3	17
18	590·6	593·8	597·1	600·4	603·7	607·0	610·2	613·5	616·8	620·1	18
19	623·4	626·6	629·9	633·2	636·5	639·8	643·0	646·3	649·6	652·9	19
20	656·2	659·4	662·7	666·0	669·3	672·6	675·9	679·1	682·4	685·7	20
21	689·0	692·3	695·5	698·8	702·1	705·4	708·7	711·9	715·2	718·5	21
22	721·8	725·1	728·3	731·6	734·9	738·2	741·5	744·8	748·0	751·3	22
23	754·6	757·9	761·2	764·4	767·7	771·0	774·3	777·6	780·8	784·1	23
24	787·4	790·7	794·0	797·2	800·5	803·8	807·1	810·4	813·7	816·9	24
25	820·2	823·5	826·8	830·1	833·3	836·6	839·9	843·2	846·5	849·7	25
26	853·0	856·3	859·6	862·9	866·1	869·4	872·7	876·0	879·3	882·5	26
27	885·8	889·1	892·4	895·7	899·0	902·2	905·5	908·8	912·1	915·4	27
28	918·6	921·9	925·2	928·5	931·8	935·0	938·3	941·6	944·9	948·2	28
29	951·4	954·7	958·0	961·3	964·6	967·8	971·1	974·4	977·7	981·0	29
30	984·3	987·5	990·8	994·1	997·4	1000·7	1003·9	1007·2	1010·5	1013·8	30
31	1017·1	1020·3	1023·6	1026·9	1030·2	1033·5	1036·7	1040·0	1043·3	1046·6	31
32	1049·9	1053·1	1056·4	1059·7	1063·0	1066·3	1069·6	1072·8	1076·1	1079·4	32

	0	1	2	3	4	5	6	7	8	9	
33	1082·7	1086·0	1089·2	1092·5	1095·8	1099·1	1102·4	1105·6	1108·9	1112·2	33
34	1115·5	1118·8	1122·0	1125·3	1128·6	1131·9	1135·2	1138·5	1141·7	1145·0	34
35	1148·3	1151·6	1154·9	1158·1	1161·4	1164·7	1168·0	1171·3	1174·5	1177·8	35
36	1181·1	1184·4	1187·7	1190·9	1194·2	1197·5	1200·8	1204·1	1207·3	1210·6	36
37	1213·9	1217·2	1220·5	1223·8	1227·0	1230·3	1233·6	1236·9	1240·2	1243·4	37
38	1246·7	1250·0	1253·3	1256·6	1259·8	1263·1	1266·4	1269·7	1273·0	1276·2	38
39	1279·5	1282·8	1286·1	1289·4	1292·7	1295·9	1299·2	1302·5	1305·8	1309·1	39
40	1312·3	1315·6	1318·9	1322·2	1325·5	1328·7	1332·0	1335·3	1338·6	1341·9	40
41	1345·1	1348·4	1351·7	1355·0	1358·3	1361·5	1364·8	1368·1	1371·4	1374·7	41
42	1378·0	1381·2	1384·5	1387·8	1391·1	1394·4	1397·6	1400·9	1404·2	1407·5	42
43	1410·8	1414·0	1417·3	1420·6	1423·9	1427·2	1430·4	1433·7	1437·0	1440·3	43
44	1443·6	1446·9	1450·1	1453·4	1456·7	1460·0	1463·3	1466·5	1469·8	1473·1	44
45	1476·4	1479·7	1482·9	1486·2	1489·5	1492·8	1496·1	1499·3	1502·6	1505·9	45
46	1509·2	1512·5	1515·7	1519·0	1522·3	1525·6	1528·9	1532·2	1535·4	1538·7	46
47	1542·0	1545·3	1548·6	1551·8	1555·1	1558·4	1561·7	1565·0	1568·2	1571·5	47
48	1574·8	1578·1	1581·4	1584·6	1587·9	1591·2	1594·5	1597·8	1601·0	1604·3	48
49	1607·6	1610·9	1614·2	1617·5	1620·7	1624·0	1627·3	1630·6	1633·9	1637·1	49
50	1640·4	1643·7	1647·0	1650·3	1653·6	1656·8	1660·1	1663·4	1666·7	1669·9	50
51	1673·2	1676·5	1679·8	1683·1	1686·4	1689·6	1692·9	1696·2	1699·5	1702·8	51
52	1706·0	1709·3	1712·6	1715·9	1719·2	1722·4	1725·7	1729·0	1732·3	1735·6	52
53	1738·8	1742·1	1745·4	1748·7	1752·0	1755·2	1758·5	1761·8	1765·1	1768·4	53
54	1771·7	1774·9	1778·2	1781·5	1784·8	1788·1	1791·3	1794·6	1797·9	1801·2	54
55	1804·5	1807·8	1811·0	1814·3	1817·6	1820·9	1824·1	1827·4	1830·7	1834·0	55
56	1837·3	1840·6	1843·8	1847·1	1850·4	1853·7	1857·0	1860·2	1863·5	1866·8	56
57	1870·1	1873·4	1876·6	1879·9	1883·2	1886·5	1889·8	1893·0	1896·3	1899·6	57
58	1902·9	1906·2	1909·4	1912·7	1916·0	1919·3	1922·6	1925·9	1929·1	1932·4	58
59	1935·7	1939·0	1942·3	1945·5	1948·8	1952·1	1955·4	1958·7	1961·9	1965·2	59
60	1968·5	1971·8	1975·1	1978·3	1981·6	1984·9	1988·2	1991·5	1994·8	1998·0	60
61	2001·3	2004·6	2007·9	2011·1	2014·4	2017·7	2021·0	2024·3	2027·6	2030·8	61
62	2034·1	2037·4	2040·7	2044·0	2047·2	2050·5	2053·8	2057·1	2060·4	2063·6	62
63	2066·9	2070·2	2073·5	2076·8	2080·1	2083·3	2086·6	2089·9	2093·2	2096·5	63
64	2099·7	2103·0	2106·3	2109·6	2112·9	2116·1	2119·4	2122·7	2126·0	2129·3	64
65	2132·5	2135·8	2139·1	2142·4	2145·7	2149·0	2152·3	2155·5	2158·8	2162·1	65
66	2165·4	2168·6	2171·9	2175·2	2178·5	2181·8	2185·1	2188·3	2191·6	2194·9	66

	0	1	2	3	4	5	6	7	8	9	
67	2198·2	2201·5	2204·7	2208·0	2211·3	2214·6	2217·9	2221·1	2224·4	2227·7	67
68	2231·0	2234·3	2237·5	2240·8	2244·1	2247·4	2250·7	2253·9	2257·2	2260·5	68
69	2263·8	2267·1	2270·4	2273·6	2276·9	2280·2	2283·5	2286·8	2290·0	2293·3	69
70	2296·6	2299·9	2303·2	2306·4	2309·7	2313·0	2316·3	2319·6	2322·8	2326·1	70
71	2329·4	2332·7	2336·0	2339·2	2342·5	2345·8	2349·1	2352·4	2355·6	2358·9	71
72	2362·2	2365·5	2368·8	2372·0	2375·3	2378·6	2381·9	2385·2	2388·5	2391·7	72
73	2395·0	2398·3	2401·6	2404·9	2408·1	2411·4	2414·7	2418·0	2421·3	2424·5	73
74	2427·8	2431·1	2434·4	2437·7	2440·9	2444·2	2447·5	2450·8	2454·1	2457·3	74
75	2460·6	2463·9	2467·2	2470·5	2473·8	2477·0	2480·3	2483·6	2486·9	2490·2	75
76	2493·4	2496·7	2500·0	2503·3	2506·6	2509·8	2513·1	2516·4	2519·7	2523·0	76
77	2526·2	2529·5	2532·8	2536·1	2539·4	2542·7	2545·9	2549·2	2552·5	2555·8	77
78	2559·1	2562·3	2565·6	2568·9	2572·2	2575·5	2578·7	2582·0	2585·3	2588·6	78
79	2591·9	2595·1	2598·4	2601·7	2605·0	2608·3	2611·5	2614·8	2618·1	2621·4	79
80	2624·7	2628·0	2631·2	2634·5	2637·8	2641·1	2644·4	2647·6	2650·9	2654·2	80
81	2657·5	2660·8	2664·0	2667·3	2670·6	2673·9	2677·2	2680·4	2683·7	2687·0	81
82	2690·3	2693·6	2696·9	2700·1	2703·4	2706·7	2710·0	2713·3	2716·5	2719·8	82
83	2723·1	2726·4	2729·7	2732·9	2736·2	2739·5	2742·8	2746·1	2749·3	2752·6	83
84	2755·9	2759·2	2762·5	2765·7	2769·0	2772·3	2775·6	2778·9	2782·2	2785·4	84
85	2788·7	2792·0	2795·3	2798·6	2801·8	2805·1	2808·4	2811·7	2815·0	2818·2	85
86	2821·5	2824·8	2828·1	2831·4	2834·6	2837·9	2841·2	2844·5	2847·8	2851·0	86
87	2854·3	2857·6	2860·9	2864·2	2867·5	2870·7	2874·0	2877·3	2880·6	2883·9	87
88	2887·1	2890·4	2893·7	2897·0	2900·3	2903·5	2906·8	2910·1	2913·4	2916·7	88
89	2919·9	2923·2	2926·5	2929·8	2933·1	2936·4	2939·6	2942·9	2946·2	2949·5	89
90	2952·8	2956·0	2959·3	2962·6	2965·9	2969·2	2972·4	2975·7	2979·0	2982·3	90
91	2985·6	2988·8	2992·1	2995·4	2998·7	3002·0	3005·2	3008·5	3011·8	3015·1	91
92	3018·4	3021·7	3024·9	3028·2	3031·5	3034·8	3038·1	3041·3	3044·6	3047·9	92
93	3051·2	3054·5	3057·7	3061·0	3064·3	3067·6	3070·9	3074·1	3077·4	3080·7	93
94	3084·0	3087·3	3090·6	3093·8	3097·1	3100·4	3103·7	3107·0	3110·2	3113·5	94
95	3116·8	3120·1	3123·4	3126·6	3129·9	3133·2	3136·5	3139·8	3143·0	3146·3	95
96	3149·6	3152·9	3156·2	3159·4	3162·7	3166·0	3169·3	3172·6	3175·9	3179·1	96
97	3182·4	3185·7	3189·0	3192·3	3195·5	3198·8	3202·1	3205·4	3208·7	3211·9	97
98	3215·2	3218·5	3221·8	3225·1	3228·3	3231·6	3234·9	3238·2	3241·5	3244·8	98
99	3248·0	3251·3	3254·6	3257·9	3261·2	3264·4	3267·7	3271·0	3274·3	3277·6	99
100	3280·8										100

TABLE 8. CENTIMETRES TO INCHES

1 centimetre = 0·393701 inches

	0	1	2	3	4	5	6	7	8	9	
..	..	0·394	0·787	1·181	1·575	1·969	2·362	2·756	3·150	3·543	..
1	3·937	4·331	4·724	5·118	5·512	5·906	6·299	6·693	7·087	7·480	1
2	7·874	8·268	8·661	9·055	9·449	9·843	10·236	10·630	11·024	11·417	2
3	11·811	12·205	12·598	12·992	13·386	13·780	14·173	14·567	14·961	15·354	3
4	15·748	16·142	16·535	16·929	17·323	17·717	18·110	18·504	18·898	19·291	4
5	19·685	20·079	20·472	20·866	21·260	21·654	22·047	22·441	22·835	23·228	5
6	23·622	24·016	24·409	24·803	25·197	25·591	25·984	26·378	26·772	27·165	6
7	27·559	27·953	28·346	28·740	29·134	29·528	29·921	30·315	30·709	31·102	7
8	31·496	31·890	32·283	32·677	33·071	33·465	33·858	34·252	34·646	35·039	8
9	35·433	35·827	36·220	36·614	37·008	37·402	37·795	38·189	38·583	38·976	9
10	39·370										10

TABLE 9. KILOMETRES TO STATUTE MILES

1 kilometre = 0·621372 miles

	0	1	2	3	4	5	6	7	8	9	
..	..	0·621	1·243	1·864	2·485	3·107	3·728	4·350	4·971	5·592	..
1	6·214	6·835	7·456	8·078	8·699	9·321	9·942	10·563	11·185	11·806	1
2	12·427	13·049	13·670	14·292	14·913	15·534	16·156	16·777	17·398	18·020	2
3	18·641	19·263	19·884	20·505	21·127	21·748	22·369	22·991	23·612	24·234	3
4	24·855	25·476	26·098	26·719	27·340	27·962	28·583	29·204	29·826	30·447	4
5	31·069	31·690	32·311	32·933	33·554	34·175	34·797	35·418	36·040	36·661	5
6	37·282	37·904	38·525	39·146	39·768	40·389	41·011	41·632	42·253	42·875	6
7	43·496	44·117	44·739	45·360	45·982	46·603	47·224	47·846	48·467	49·088	7
8	49·710	50·331	50·952	51·574	52·195	52·817	53·438	54·059	54·681	55·302	8
9	55·923	56·545	57·166	57·788	58·409	59·030	59·652	60·273	60·894	61·516	9
10	62·137										10

TABLE 10. SQUARE METRES TO SQUARE FEET

1 square metre = 10·763911 square feet

	0	1	2	3	4	5	6	7	8	9	
..	..	10·764	21·528	32·292	43·056	53·820	64·583	75·347	86·111	96·875	..
1	107·639	118·403	129·167	139·931	150·695	161·459	172·222	182·986	193·750	204·514	1
2	215·278	226·042	236·806	247·570	258·334	269·098	279·861	290·625	301·389	312·153	2
3	322·917	333·681	344·445	355·209	365·973	376·737	387·501	398·265	409·029	419·792	3
4	430·556	441·320	452·084	462·848	473·612	484·376	495·140	505·904	516·668	527·432	4
5	538·196	548·959	559·723	570·487	581·251	592·015	602·779	613·543	624·307	635·071	5
6	645·835	656·599	667·363	678·126	688·890	699·654	710·418	721·182	731·946	742·710	6
7	753·474	764·238	775·002	785·765	796·529	807·293	818·057	828·821	839·585	850·349	7
8	861·113	871·877	882·641	893·405	904·169	914·932	925·696	936·460	947·224	957·988	8
9	968·752	979·516	990·280	1001·044	1011·808	1022·572	1033·335	1044·099	1054·863	1065·627	9
10	1076·3911										10

TABLE 11. HECTARES TO ACRES

1 hectare = 2·47106 acres

	0	1	2	3	4	5	6	7	8	9	
..	..	2·47	4·94	7·41	9·88	12·36	14·83	17·30	19·77	22·24	..
1	24·71	27·18	29·65	32·12	34·59	37·07	39·54	42·01	44·48	46·95	1
2	49·42	51·89	54·36	56·83	59·31	61·78	64·25	66·72	69·19	71·66	2
3	74·13	76·60	79·07	81·54	84·02	86·49	88·96	91·43	93·90	96·37	3
4	98·84	101·31	103·78	106·26	108·73	111·20	113·67	116·14	118·61	121·08	4
5	123·55	126·02	128·50	130·97	133·44	135·91	138·38	140·85	143·32	145·79	5
6	148·26	150·73	153·21	155·68	158·15	160·62	163·09	165·56	168·03	170·50	6
7	172·97	175·45	177·92	180·39	182·86	185·33	187·80	190·27	192·74	195·21	7
8	197·68	200·16	202·63	205·10	207·57	210·04	212·51	214·98	217·45	219·92	8
9	222·40	224·87	227·34	229·81	232·28	234·75	237·22	239·69	242·16	244·63	9
10	247·11										10

TABLE 12. SQUARE KILOMETRES TO SQUARE MILES

1 square kilometre = 0·386103 square miles

	0	1	2	3	4	5	6	7	8	9	
..	..	0·386	0·772	1·158	1·544	1·931	2·317	2·703	3·089	3·475	..
1	3·861	4·247	4·633	5·019	5·405	5·792	6·178	6·564	6·950	7·336	1
2	7·722	8·108	8·494	8·880	9·266	9·653	10·039	10·425	10·811	11·197	2
3	11·583	11·969	12·355	12·741	13·128	13·514	13·900	14·286	14·672	15·058	3
4	15·444	15·830	16·216	16·602	16·989	17·375	17·761	18·147	18·533	18·919	4
5	19·305	19·691	20·077	20·463	20·850	21·236	21·622	22·008	22·394	22·780	5
6	23·166	23·552	23·938	24·324	24·711	25·097	25·483	25·869	26·255	26·641	6
7	27·027	27·413	27·799	28·186	28·572	28·958	29·344	29·730	30·116	30·502	7
8	30·888	31·274	31·660	32·047	32·433	32·819	33·205	33·591	33·977	34·363	8
9	34·749	35·135	35·521	35·908	36·294	36·680	37·066	37·452	37·838	38·224	9
10	38·610										10

TABLE 13. CUBIC METRES TO CUBIC FEET

1 cubic metre = 35·3148 cubic feet

	0	1	2	3	4	5	6	7	8	9	
..	..	35·315	70·630	105·944	141·260	176·574	211·889	247·204	282·518	317·833	..
1	353·148	388·463	423·778	459·092	494·407	529·722	565·037	600·352	635·666	670·981	1
2	706·296	741·611	776·926	812·240	847·555	882·870	918·185	953·500	988·814	1024·129	2
3	1059·444	1094·759	1130·074	1165·388	1200·703	1236·018	1271·333	1306·648	1341·962	1377·277	3
4	1412·592	1447·907	1483·222	1518·536	1553·851	1589·166	1624·481	1659·796	1695·110	1730·425	4
5	1765·740	1801·055	1836·370	1871·684	1906·999	1942·314	1977·629	2012·944	2048·258	2083·573	5
6	2118·888	2154·203	2189·518	2224·832	2260·147	2295·462	2330·777	2366·092	2401·406	2436·721	6
7	2472·036	2507·351	2542·666	2577·980	2613·295	2648·610	2683·925	2719·240	2754·554	2789·869	7
8	2825·184	2860·499	2895·814	2931·128	2966·443	3001·758	3037·073	3072·388	3107·702	3143·017	8
9	3178·332	3213·647	3248·962	3284·276	3319·591	3354·906	3390·221	3425·536	3460·850	3496·165	9
10	3531·480										10

TABLE 14. KILOGRAMMES TO POUNDS

1 kilogramme = 2·20462 pounds

	0	1	2	3	4	5	6	7	8	9	
..	..	2·205	4·409	6·614	8·818	11·023	13·228	15·432	17·637	19·842	..
1	22·046	24·251	26·455	28·660	30·865	33·069	35·274	37·478	39·683	41·888	1
2	44·092	46·297	48·502	50·706	52·911	55·115	57·320	59·525	61·729	63·934	2
3	66·139	68·343	70·548	72·752	74·957	77·162	79·366	81·571	83·776	85·980	3
4	88·185	90·389	92·594	94·799	97·003	99·208	101·413	103·617	105·822	108·026	4
5	110·231	112·436	114·640	116·845	119·049	121·254	123·459	125·663	127·868	130·073	5
6	132·277	134·482	136·686	138·891	141·096	143·300	145·505	147·710	149·914	152·119	6
7	154·323	156·528	158·733	160·937	163·142	165·346	167·551	169·756	171·960	174·165	7
8	176·370	178·574	180·779	182·983	185·188	187·393	189·597	191·802	194·007	196·211	8
9	198·416	200·620	202·825	205·030	207·234	209·439	211·644	213·848	216·053	218·257	9
10	220·462										10

TABLE 15. LITRES TO GALLONS

1 litre = 0·219976 gallons

	0	1	2	3	4	5	6	7	8	9	
..	..	0·220	0·440	0·660	0·880	1·100	1·320	1·540	1·760	1·980	..
1	2·200	2·420	2·640	2·860	3·080	3·300	3·520	3·740	3·960	4·180	1
2	4·400	4·619	4·839	5·059	5·279	5·499	5·719	5·939	6·159	6·379	2
3	6·599	6·819	7·039	7·259	7·479	7·699	7·919	8·139	8·359	8·579	3
4	8·799	9·019	9·239	9·459	9·679	9·899	10·119	10·339	10·559	10·779	4
5	10·999	11·219	11·439	11·659	11·879	12·099	12·319	12·539	12·759	12·979	5
6	13·199	13·419	13·639	13·858	14·078	14·298	14·518	14·738	14·958	15·178	6
7	15·398	15·618	15·838	16·058	16·278	16·498	16·718	16·938	17·158	17·378	7
8	17·598	17·818	18·038	18·258	18·478	18·698	18·918	19·138	19·358	19·578	8
9	19·798	20·018	20·238	20·458	20·678	20·898	21·118	21·338	21·558	21·778	9
10	21·998										10

TABLE 16. METRIC TONS TO TONS

1 metric ton = 0·984207 ton

	0	1	2	3	4	5	6	7	8	9	
..	..	0·984	1·968	2·953	3·937	4·921	5·905	6·889	7·874	8·858	..
1	9·842	10·826	11·810	12·795	13·779	14·763	15·747	16·732	17·716	18·700	1
2	19·684	20·668	21·653	22·637	23·621	24·605	25·589	26·574	27·558	28·542	2
3	29·526	30·510	31·495	32·479	33·463	34·447	35·431	36·416	37·400	38·384	3
4	39·368	40·352	41·337	42·321	43·305	44·289	45·274	46·258	47·242	48·226	4
5	49·210	50·195	51·179	52·163	53·147	54·131	55·116	56·100	57·084	58·068	5
6	59·052	60·037	61·021	62·005	62·989	63·973	64·958	65·942	66·926	67·910	6
7	68·894	69·879	70·863	71·847	72·831	73·816	74·800	75·784	76·768	77·752	7
8	78·737	79·721	80·705	81·689	82·673	83·658	84·642	85·626	86·610	87·594	8
9	88·579	89·563	90·547	91·531	92·515	93·500	94·484	95·468	96·452	97·436	9
10	98·421										10

TABLE 17. QUINTALS PER HECTARE TO TONS PER ACRE

1 quintal per hectare = 0·0398294 ton per acre

	0	1	2	3	4	5	6	7	8	9	
..	..	0·03983	0·07966	0·11949	0·15932	0·19915	0·23898	0·27881	0·31864	0·35846	..
1	0·39829	0·43812	0·47795	0·51778	0·55761	0·59744	0·63727	0·67710	0·71693	0·75676	1
2	0·79659	0·83642	0·87625	0·91608	0·95591	0·99574	1·03556	1·07539	1·11522	1·15505	2
3	1·19488	1·23471	1·27454	1·31437	1·35420	1·39401	1·43386	1·47369	1·51352	1·55335	3
4	1·59318	1·63305	1·67283	1·71266	1·75249	1·79232	1·83215	1·87198	1·91181	1·95164	4
5	1·99147	2·03130	2·07113	2·11096	2·15079	2·19062	2·23045	2·27028	2·31011	2·34993	5
6	2·38976	2·42959	2·46942	2·50925	2·54908	2·58891	2·62874	2·66857	2·70840	2·74823	6
7	2·78806	2·82789	2·86772	2·90755	2·94738	2·98721	3·02703	3·06686	3·10669	3·14652	7
8	3·18635	3·22618	3·26601	3·30584	3·34567	3·38550	3·42533	3·46516	3·50499	3·54482	8
9	3·58465	3·62448	3·66430	3·70413	3·74396	3·78379	3·82362	3·86345	3·90328	3·94311	9
10	3·98294										10

TABLE 18. NUMBERS PER SQUARE KILOMETRE TO NUMBERS PER SQUARE MILE

(*or* Square Miles to Square Kilometres)

1 square mile = 2·58998 square kilometres

	0	1	2	3	4	5	6	7	8	9	
..	..	2·59	5·18	7·77	10·36	12·95	15·54	18·13	20·72	23·31	..
1	25·90	28·49	31·08	33·67	36·26	38·85	41·44	44·03	46·62	49·21	1
2	51·80	54·39	56·98	59·57	62·16	64·75	67·34	69·93	72·52	75·11	2
3	77·70	80·29	82·88	85·47	88·06	90·65	93·24	95·83	98·42	101·01	3
4	103·60	106·19	108·78	111·37	113·96	116·55	119·14	121·73	124·32	126·91	4
5	129·50	132·09	134·68	137·27	139·86	142·45	145·04	147·63	150·22	152·81	5
6	155·40	157·99	160·58	163·17	165·76	168·35	170·94	173·53	176·12	178·71	6
7	181·30	183·89	186·48	189·07	191·66	194·25	196·84	199·43	202·02	204·61	7
8	207·20	209·79	212·38	214·97	217·56	220·15	222·74	225·33	227·92	230·51	8
9	233·10	235·69	238·28	240·87	243·46	246·05	248·64	251·23	253·82	256·41	9
10	259·00										10

TABLE 19. DEGREES CENTIGRADE TO DEGREES FAHRENHEIT

1° Centigrade = 1·8° Fahrenheit

Centigrade minus

	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	
−2	−4·0	−5·8	−7·6	−9·4	−11·2	−13·0	−14·8	−16·6	−18·4	−20·2	−2
−1	14·0	12·2	10·4	8·6	6·8	5·0	3·2	1·4	−0·4	−2·2	−1
..	32·0	30·2	28·4	26·6	24·8	23·0	21·2	19·4	17·6	15·8	..
..	32·0	33·8	35·6	37·4	39·2	41·0	42·8	44·6	46·4	48·2	..
+1	50·0	51·8	53·6	55·4	57·2	59·0	60·8	62·6	64·4	66·[illegible]	+1
+2	68·0	69·8	71·6	73·4	75·2	77·0	78·8	80·6	82·4	84·2	+2
+3	86·0	87·8	89·6	91·4	93·2	95·0	96·8	98·6	100·4	102·2	+3
+4	104·0	105·8	107·6	109·4	111·2	113·0	114·8	116·6	118·4	120·2	+4
+5	122·0	123·8	125·6	127·4	129·2	131·0	132·8	134·6	136·4	138·2	+5
+6	140·0	141·8	143·6	145·4	147·2	149·0	150·8	152·6	154·4	156·2	+6
+7	158·0	159·8	161·6	163·4	165·2	167·0	168·8	170·6	172·4	174·2	+7
+8	176·0	177·8	179·6	181·4	183·2	185·0	186·8	188·6	190·4	192·2	+8
+9	194·0	195·8	197·6	199·4	201·2	203·0	204·8	206·6	208·4	210·2	+9
+10	212·0										+10
	0	1	2	3	4	5	6	7	8	9	

Centigrade plus

TABLE 20. PRESSURE: EQUIVALENTS OF MILLIBARS, MILLIMETRES OF MERCURY, AND INCHES OF MERCURY AT 32° F. IN LATITUDE 45°

Mercury in.	*Milli-bars*	*Mercury mm.*	*Mercury in.*	*Milli-bars*	*Mercury mm.*	*Mercury in.*	*Milli-bars*	*Mercury mm.*	*Mercury in.*	*Milli-bars*	*Mercury mm.*	*Mercury in.*	*Milli-bars*	*Mercury mm.*
27·02	915	686·3	27·82	942	706·6	28·62	969	726·8	29·41	996	747·1	30·21	1,023	767·3
27·05	916	687·1	27·85	943	707·3	28·65	970	727·6	29·44	997	747·8	30·24	1,024	768·1
27·08	917	687·8	27·88	944	708·1	28·67	971	728·3	29·47	998	748·6	30·27	1,025	768·8
27·11	918	688·6	27·91	945	708·8	28·70	972	729·1	29·50	999	749·3	30·30	1,026	769·6
27·14	919	689·3	27·94	946	709·6	28·73	973	729·8	29·53	1,000	750·1	30·33	1,027	770·3
27·17	920	690·1	27·97	947	710·3	28·76	974	730·6	29·56	1,001	750·8	30·36	1,028	771·1
27·20	921	690·8	28·00	948	711·1	28·79	975	731·3	29·59	1,002	751·6	30·39	1,029	771·8
27·23	922	691·6	28·03	949	711·8	28·82	976	732·1	29·62	1,003	752·3	30·42	1,030	772·6
27·26	923	692·3	28·05	950	712·6	28·85	977	732·8	29·65	1,004	753·1	30·45	1,031	773·3
27·29	924	693·1	28·08	951	713·3	28·88	978	733·6	29·68	1,005	753·8	30·48	1,032	774·1
27·32	925	693·8	28·11	952	714·1	28·91	979	734·3	29·71	1,006	754·6	30·51	1,033	774·8
27·35	926	694·6	28·14	953	714·8	28·94	980	735·1	29·74	1,007	755·3	30·53	1,034	775·6
27·38	927	695·3	28·17	954	715·6	28·97	981	735·8	29·77	1,008	756·1	30·56	1,035	776·3
27·41	928	696·1	28·20	955	716·3	29·00	982	736·6	29·80	1,009	756·8	30·59	1,036	777·1
27·44	929	696·8	28·23	956	717·1	29·03	983	737·3	29·83	1,010	757·6	30·62	1,037	777·8
27·46	930	697·6	28·26	957	717·8	29·06	984	738·1	29·86	1,011	758·3	30·65	1,038	778·6
27·49	931	698·3	28·29	958	718·6	29·09	985	738·8	29·89	1,012	759·1	30·68	1,039	779·3
27·52	932	699·1	28·32	959	719·3	29·12	986	739·6	29·92	1,013	759·8	30·71	1,040	780·1
27·55	933	699·8	28·35	960	720·1	29·15	987	740·3	29·94	1,014	760·6	30·74	1,041	780·8
27·58	934	700·6	28·38	961	720·8	29·18	988	741·1	29·97	1,015	761·3	30·77	1,042	781·6
27·61	935	701·3	28·41	962	721·6	29·21	989	741·8	30·00	1,016	762·1	30·80	1,043	782·3
27·64	936	702·1	28·44	963	722·3	29·24	990	742·6	30·03	1,017	762·8	30·83	1,044	783·1
27·67	937	702·8	28·47	964	723·1	29·26	991	743·3	30·06	1,018	763·6	30·86	1,045	783·8
27·70	938	703·6	28·50	965	723·8	29·29	992	744·1	30·09	1,019	764·3	30·89	1,046	784·6
27·73	939	704·3	28·53	966	724·6	29·32	993	744·8	30·12	1,020	765·1	30·92	1,047	785·3
27·76	940	705·1	28·56	967	725·3	29·35	994	745·6	30·15	1,021	765·8	30·95	1,048	786·1
27·79	941	705·8	28·59	968	726·1	29·38	995	746·3	30·18	1,022	766·6	30·98	1,049	786·8

APPENDIX K

AUTHORSHIP AND BIBLIOGRAPHY

AUTHORSHIP

The volume has been written mainly by J. W. Crowfoot (former Director of the British School of Archaeology, Jerusalem), A. N. Sherwin-White (Fellow of St. John's College, Oxford), and Marguerite D. Emmens. Contributions have been made by Professor P. A. Buxton (London School of Hygiene and Tropical Medicine), Dr. J. V. Harrison (Department of Geology, Oxford), Dr. W. B. Turrill (Royal Botanical Gardens, Kew), and technical information and photographs have been provided by Service Departments, the Meteorological Office, the Royal Institute of International Affairs, the Fighting French Services, and the Palestine Exploration Fund.

The text-figures and maps have been prepared by the drawing office of the Oxford sub-centre under the direction of K. W. Hartland.

BIBLIOGRAPHY

Some of this book has been written from the personal experience of informants, much compiled from maps and aerial photographs. As for written sources, the historical and archaeological bibliography of Syria is immense, but books about the topography, economics, and social life of the country are rare. The following list includes the major works of recent date, in English or French, which refer strictly to the subject-matter of the chapters concerned. Those who are strangers to the Orient should read Gertrude Bell's masterpiece, *The Desert and the Sown*; though Syria has changed greatly in externals since 1907, this book is the best introduction in English to the character of the people.

Physical Description and Geology

Except for the original Admiralty Handbooks, these are all in French.

I.D. 1215. *Handbook of Syria* (1919).

C.B. 296. *Handbook of Mesopotamia*, vols. iii–iv (1917).

R. Blanchard. *Géographie Universelle*, vol. viii (Paris, 1929).

L. Dubertret. 'Etude sur les Etats du Levant sous Mandat Français' (*Rev. Géogr. Phys. et de Géol. Dyn.* vi. 4, p. 269).

—— 'Études des regions volcaniques du Hauran, du Djebel Druze et du Diret el Touloul' (*Rev. Géogr. Phys. et de Géol. Dyn.* ii. 4, p. 275).

F. Herbette. 'Le Djebel Druze' (*Ann. Géog.* xxxv, p. 51).

R. Thoumin. *Géographie humaine de la Syrie centrale* (Paris, 1936).

TOPOGRAPHY

A. MUSIL. *Palmyrena* (Am. Geog. Soc. Orient. Stud. N°. 4, New York, 1928) has much local detail.

Guide Bleu, Syrie-Palestine (Paris, 1932), for towns and itineraries.

Mediterranean Pilot, vol. v (London, 1937), for the coast.

A. GRUVEL, op. cit., below, 'Ports', for coasts and rivers.

CLIMATE

I.D. 1117. *The Climate of the Eastern Mediterranean*, ch. 3 (1916).

W. KENDREW. *Climates of the Continents* (3rd ed., Oxford, 1937).

M.O. 391*b*. *Weather in the Mediterranean*, vol. ii (London, 1936).

C. COMBIER. 'La Climatologie de la Syrie et du Liban' (*Rev. Géogr. Phys. et de Géol. Dyn.* vi. 4, p. 319).

Tables were partly provided by the Meteorological Office, partly taken from the above works.

VEGETATION

G. E. POST. *Flora of Syria, Palestine and Sinai*, revised by J. E. Dinsmore (Beirut, 1932–3).

BOULOUMOY. *Flore du Liban et de la Syrie* (Paris, 1930).

J. D. HOOKER. 'Botany of Syria and Palestine' in Smith's *Dictionary of the Bible.*

Fish, see GRUVEL, op. cit., below, 'Ports'.

HISTORY

Ancient History

R. HALL. *The Ancient History of the Near East* (London, 1927).

The Cambridge Ancient History, especially i, ch. 5; ii, ch. 13; iii. 1–3, 6; vii, chs. 5, 22; ix, ch. 8; xi, ch. 15; xii, chs. 6 and 9.

M. I. ROSTOVTZEFF. *Caravan Cities* (Oxford, 1932).

—— *Dura-Europus, Its Art and Life* (Oxford, 1938).

A. POIDEBARD. *Tracé de Rome dans le Desert* (Paris, 1934).

Moslem Period

P. HITTI. *History of the Arabs* (London, 1937).

Cambridge Mediaeval History, ii, chs. 10–11; v, chs. 6–8.

H. A. R. GIBB. *Arabic Literature* (World's Manuals, Oxford).

E. BARKER. *The Crusades* (World's Manuals, Oxford).

W. B. STEVENSON. *Crusaders in the East* (Cambridge, 1907).

Modern World

C. H. CHURCHILL. *The Druzes and Maronites under Turkish Rule, 1840–1860* (London, 1862).

M. SYKES. *The Caliph's Last Heritage* (London, 1915).

T. E. Lawrence. *The Seven Pillars of Wisdom* (London, 1935).
G. Antonius. *The Arab Awakening* (London, 1938).

The People

Gertrude Bell. *The Desert and the Sown* (London, 1907).
Sir H. C. Luke. *Prophets, Priests and Patriarchs* (Faith Press, 1927).
A. Kappers. *An Introduction to the Anthropology of the Near East* (Amsterdam, 1934).
B. J. Kidd. *The Churches of Eastern Christendom* (Faith Press, 1927).
F. Ammoun. *La Syrie Criminelle* (Paris, 1929).
S. C. Dodd. *A Controlled Experiment in Rural Hygiene in Syria* (Beirut, 1934).

Beduin

A. Musil. *The Manners and Customs of the Rwala Bedouins* (Am. Geog. Soc. Orient. Stud. N°. 6, New York, 1928).
M. F. V. Oppenheim. *Die Beduinen*, vol. i (Leipzig, 1939).
C. R. Raswan. 'Tribal Areas . . . of the North Arabian Bedouins', *Geographical Review* (New York), 1930, p. 494.

Assyrians

W. A. Wigram. *The Cradle of Mankind* (London, 1914).

Druses and Alawis (*Nosairis*), see in the first place articles in *Encyclopaedia Britannica*, s.v.

Administration

R. O'Zoux. *Etats du Levant sous mandat français* (Paris, 1931).
Rapports à la Société des Nations sur la situation de la Syrie et du Liban 1924–1939 (Paris).

Agriculture

S. B. Himadeh. *Economic Organisation of Syria* (Beirut, 1936).
Thoumin. Op. cit., above, especially for irrigation.

Land Tenure, &c.

A. Latron. *La Vie Rurale en Syrie et au Liban* (Beirut, 1936).
The old Handbooks and the yearly L.N. Rapports have much detailed information.

Commerce and Finance

S. B. Himadeh. Op. cit., above.
—— *Monetary and Banking System of Syria* (Beirut, 1935).

PORTS

J. DE MONICAULT. *Le Port de Beyrouth* (Paris, 1936).

A. GRUVEL. *Les Etats de Syrie, Richesses marines* (Paris, 1931) describes the coastal fisheries and havens.

COMMUNICATIONS

R. THOUMIN. Op. cit. 4, ch. 1, gives local detail.

The *Guide Bleu* is useful for itineraries.

C. P. GRANT. *The Syrian Desert* (London, 1937) deals with the desert routes and the caravans.

MAPS

See Introduction, p. 8.

INDEX

Place-names compounded with the Arabic topographic terms Ain, Jebel, Kalaat, Kasr, Nahr, Ras, Sahel, Tell, Wadi, are indexed by the initial letter of the proper noun, except for compounds familiar to the English reader or not ordinarily separated, the topographic terms being placed after the proper nouns. The definite article *el* is treated in the same way. Figure references, indicated e.g. as '116 fig.', are to page numbers. Attention is drawn, *for general references*, to the Contents, which is numbered by subsections.

PRINTED UNDER THE AUTHORITY OF H.M. STATIONERY OFFICE
AT THE UNIVERSITY PRESS, OXFORD

1:1,000,000

SYRIA & LEBANON

FIRST EDITION

TURKEY

IRAQ

TRANSJORDAN

PALESTINE

MEDITERRANEAN SEA

SYRIA & LEBANON

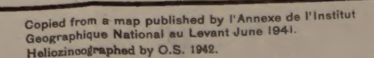
1:1,000,000

100 km.

COMPARATIVE TABLE OF GRADES AND DEGREES

36^G	=	32° 24′ 00″
37^G	=	33° 18′ 00″
38^G	=	34° 12′ 00″
39^G	=	35° 06′ 00″
40^G	=	36° 00′ 00″
41^G	=	36° 54′ 00″
42^G	=	37° 48′ 00″
43^G	=	38° 42′ 00″
44^G	=	39° 36′ 00″
45^G	=	40° 30′ 00″
46^G	=	41° 24′ 00″
47^G	=	42° 18′ 00″

Geographical Section, General Staff, No. 4244.
Published by War Office 1942.
4000/4/42. L. R.



Copied from a map published by l'Annexe de l'Institut Geographique National au Levant June 1941.
Heliozincographed by O.S. 1942.